Bugs That Bug Us
Lyme Disease and West Nile Virus
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ON THE COVER: Ixodes scapularis, tick vector for Lyme disease.
Photo courtesy of the Centers for Disease Control and Prevention.
Gregory Jameson—known as “Greg” or “Dr. Jameson,” never as “Arthur”—died of pulmonary asbestosis on his birthday, March 26, 1992. Noted for his work in cardiopulmonary disease, Dr. Jameson, a self-effacing man, was not widely known by P&S students since much of his work was carried out at sites other than the 168th Street campus: Bellevue, Roosevelt, and elsewhere. A review of his career provides an opportunity to recognize the importance of the affiliated institutions in the P&S teaching program.

Jameson was born in Branford, Conn., attended Andover Academy, and graduated from Harvard in 1937, earning an M.S. degree in chemical engineering from MIT three years later. Excluded from military service by a boyhood eye injury, he instead worked at MIT during World War II in a government laboratory on experiments remotely connected with the Manhattan Project. In the course of that research, he sustained brief exposure—a mere two weeks—to volatilized asbestos, incurring the pulmonary fibrosis that was to kill him 50 years later.

He entered P&S, graduating in 1950, then went on to internship and residency at Bellevue under the tutelage of Dickinson Richards, who, recognizing Jameson’s clinical talent, qualities of leadership, and unimpeachable character, appointed him chief resident of the First (Columbia) Medical Division. There followed years of advanced research and clin-
ical training in the cardiopulmonary laboratory at Bellevue under Richards and Andre Cournand.

Thoroughly trained, Jameson successively directed the cardiovascular laboratories at Brooklyn and Presbyterian hospitals and held academic posts at Downstate Medical Center and at P&S. From 1966 until his retirement he headed the cardiology division and later the Department of Medicine at Roosevelt Hospital, where he played a major role in building the service, managing and teaching the house staff, and forging the substantive academic affiliation between Roosevelt and Columbia.

In his scientific work, Dr. Jameson was fortunate in his collaborators; the roster of his many co-workers reads like a “Who’s Who” of cardiology in New York. But his two best pieces of work he planned, executed, and reported as sole author. The two papers appeared in Science in 1958 and 1963: “The instantaneous linear velocity of flow in pulmonary artery measured by a catheter tip method” (Jameson designed and made the tip) and “Diffusion of gases from alveolus to pericapillary arteries.” These studies represented considerable technological advance, elegant in method, crisp and clear in presentation; a non-cardiologist can read them with understanding and pleasure.

As a clinician he was exemplary. Brisk and terse in speech, he was endlessly compassionate. Called to see a convulsing patient one night in Manhattan, he somehow—managed—to traverse the distance between the Upper West Side and the mid-lower East Side in about 10 minutes. He willingly made a mid-winter house call on a woman with a cardiac arrhythmia: He was at home in Manhattan, she in Redding Ridge, Conn., more than two hours away. Once he arrived at the bedside he wasted no time but never seemed in a hurry; his manner was serious but leavened by gentle humor.

As a medical statesman, especially during his term as president of the Roosevelt Hospital Medical Board, the qualities he needed most, and demonstrated most, were courage and honesty. In the late 1970s, when money ran short and the trustees, up to then endlessly supportive, ran for the hills, Greg lectured them severely, even harshly, on their duties and responsibilities. Such messages are unwelcome, and only the impolitic can deliver them. Jameson never shrank from telling the whole truth as he saw it.

Greg Jameson’s salient attribute was versatility. It seemed he could do anything: swimming champion, accomplished skier and woodsman, skilled sailor, designer and builder of sundials, good amateur astronomer. This writer once counted up 15 or so fields in which he was expert.

One image remains from the last months of his life, when he was housebound. Visiting him, you would often find his spare frame wrapped in a handsome maroon velvet robe which made him look like an austere Renaissance cardinal, a pleasant irony since he stemmed from a long line of card-carrying atheists.

A true polymath, Greg Jameson spent his life—in and outside the profession—giving and giving, entirely without ostentation.
NEW TARGET FOR ADULT-ONSET DIABETES TREATMENTS

Scientists have a new way to approach the design of therapeutic agents to control Type II diabetes. The laboratory of Dr. Bernard F. Erlanger, professor emeritus of microbiology, has identified a new molecular target, the A1 adenosine receptor in fat tissue, for intervention.

In a study published in the October 2001 issue of Diabetes, Obesity and Metabolism, Dr. Erlanger reported that mice genetically engineered to make extra copies of the A1 adenosine receptor protein in fat tissue did not develop obesity-related diabetes. Mice with the excess A1 adenosine receptor did not develop resistance to insulin even when fed a high-fat diet. Dr. Erlanger's group is now investigating whether certain small molecules can stimulate the activity of the A1 adenosine receptor in fat tissue in an effort to find treatments for Type II diabetes.

SURGICAL FOLLOW-UP TO RU-486

Very few women require a surgical abortion after taking mifepristone (RU-486), according to a study led by Dr. Carolyn Westhoff, professor of obstetrics/gynecology and public health. The research results were published in the July 2001 issue of Obstetrics and Gynecology.

After analyzing data from more than 4,000 women who were enrolled in collaborative clinical trials at 17 sites across the country, Dr. Westhoff determined that only 2.6 percent of the women needed a curettage to evacuate blood clots or remaining by-products of conception. Of the 2.6 percent requiring surgical follow-up, half received a curettage because they experienced heavy or prolonged bleeding after the treatment; 15 percent underwent the procedure because the drugs failed to work; and 31 percent requested the surgery rather than wait for the medical abortion to complete.

LEPTIN AND DIET DRUG TOGETHER INCREASE WEIGHT LOSS

Dieters know the phenomenon all too well: They cut calories, exercise, and lose some weight, but at some point they can’t seem to shed any more of the excess pounds. In an animal study published in the August 2001 issue of Metabolism, researchers from P&S, St. Luke’s-Roosevelt Hospital Center, and Weill-Cornell Medical College demonstrated that the hormone leptin may play a role in the plateau effect and could be used to overcome it.

According to lead author Dr. Carol Boozer, assistant professor of medicine, leptin levels decrease as animals lose weight and fat cells shrink. But with lower leptin levels the body responds as if it needs more food—slowing
down metabolism and increasing appetite. Conversely, the researchers found that obese rats given leptin in combination with the diet drug Meridia were able to lose more weight over time than rats given either substance alone. The research results suggest that replacing lost leptin may help override the weight-loss slump that dieters experience. Human studies are under way to test whether the combination therapy is effective in helping obese people lose weight.

**Turning Genes on and off with Acetyl Groups**

Research has found that the acetyl group plays a very important role in the structure of chromosomes, allowing genes to be activated or deactivated. The finding has important implications for diseases in which the regulation of gene activity has been impaired, as in multiple sclerosis and certain types of cancer. The study was published in the Aug. 10, 2001, issue of Science.

Dr. Dimitrios Thanos, associate professor of biochemistry and molecular biophysics, has characterized the role of adding certain acetyl groups to the chromosomal structural protein known as HMGI(Y). HMGI(Y) is central in turning on and off genes, such as the interferon-beta (IFN-b) gene, which is activated upon viral infection. The research shows that at around four hours after viral infection, a protein called GCN-5 adds an acetyl group to the HMGI(Y) and makes the IFN-b gene structurally ready for expression. After another three hours in the viral life cycle, another protein called CBP acetylates HMGI(Y) at another location, an action that stops gene expression.

Because HMGI(Y) is highly expressed in several cancers and because interferon-beta is used to treat people with MS, Dr. Thanos suggests that these findings ultimately may have clinical applications.

**Where You Live Linked to Heart Disease Risk, Incidence**

Living in a disadvantaged neighborhood is associated with an increased incidence of coronary heart disease. A team of investigators, including lead author Dr. Ana Diez Roux, assistant professor of medicine and epidemiology, came to this conclusion by examining data from a large-scale, multi-site atherosclerosis study, cross-correlating information on heart disease incidence, area of residence, and neighborhood characteristics. The study was published in the July 12, 2001, issue of the New England Journal of Medicine.

Because the inversely proportional relationship between neighborhood and heart disease incidence persisted after adjusting for personal income, education, occupation, and health-related variables, the researchers suggest that area of residence may be an independent predictor of future coronary heart disease and that neighborhood characteristics themselves may influence health outcomes.

**Sex Hormones, Heart Rhythm Abnormalities**

Physicians have long noticed that females are more likely than men to develop dangerous, sometimes life-threatening abnormal heart rhythms in reaction to certain drugs. Columbia researchers have begun to find out why. The research, published in the May 1, 2001, issue of Circulation, was the doctoral thesis work of Dr. Thai Pham, postdoc research fellow in medicine.

In experiments with rabbit hearts, researchers found that sex hormones appear to affect the heart rate differently. Testosterone, the male sex hormone, seems to guard
against certain abnormal rhythms. Because females lack this protection, some common drugs can induce fatal abnormal rhythms in them. These drugs include some antihistamines, antibiotics, anti-fungal medications, and, ironically, some drugs for fighting abnormal heart rhythms. Although fatal incidents are rare, doctors may want to rethink the risks and benefits of prescribing these medications to women, says senior researcher Dr. Michael R. Rosen, the Gustavus A. Pfeiffer Professor of Pharmacology, professor of pediatrics, and head of the Center for Molecular Therapeutics.

**TWO-GENE COMBINATION SELECTIVELY KILLS PANCREATIC CANCER CELLS**

A two-gene combination therapy might someday offer patients with pancreatic cancer another treatment for their disease. The laboratory of Dr. Paul B. Fisher, professor of clinical pathology, has reported that a gene known to stop tumor growth, mda-7, when combined with a snippet of DNA that turns off a cancer gene, called K-ras, killed pancreatic cancer cells in test tube experiments. The mixture also prevented tumor growth in mice. The findings were published in the Aug. 28, 2001, issue of the Proceedings of the National Academy of Sciences.

**BIOLOGICAL CLOCK NERVE PATHWAY IN THE MOUSE**

How light tells the brain to regulate the body’s clock to release hormones or to go to sleep is the question for scientists studying circadian rhythms. Columbia researchers and colleagues now have evidence for a neural pathway that responds to light in the mouse, and probably in humans. The animals cannot see the light but can set light-dark biological cycles.

Dr. Max Gottesman, director of the Institute of Cancer Research, and other researchers genetically engineered a mouse to become blind in the absence of vitamin A, a nutrient that allows the opsin photoreceptor for light in the retina to form active rhodopsin, a photoreceptor that permits animals to perceive visual light. Scientists had believed rhodopsin would also function as the molecule through which visual light would be translated into the signal that sets the biological clock, but the blind mice missing active rhodopsin could be trained to respond to light and dark. The researchers suspect another photoreceptor, cryptochrome, sets circadian rhythms. The findings were published in the Sept. 10, 2001, issue of the Proceedings of the National Academy of Sciences.

**VITAMIN C PRECURSOR MAY PREVENT BRAIN DAMAGE FROM STROKE**

A chemical precursor of vitamin C called dehydroascorbic acid might someday be a new drug therapy for stroke. Led by Dr. E. Sander Connolly, associate professor of neurological surgery, researchers found that injections with DHA both 15 minutes and three hours after stroke in mice significantly decreased the amount of damaged brain tissue and increased cerebral blood flow and neurological function in animals. Although vitamin C cannot penetrate the brain, DHA can, and it gets converted to the antioxidant vitamin C, which the researchers believe absorbs the brain-damaging free radicals created by stroke. The findings were published in the Sept. 25, 2001, issue of Proceedings of the National Academy of Sciences.

**INTERNATIONALLY ADOPTED CHILDREN AT GREATER RISK FOR INFECTIONS**

Internationally adopted children are at greater risk than previously believed for infections acquired in their country of origin. To better understand which infections the children might have and how prevalent they are, researchers examined 504 children adopted from abroad between 1997 and 1998. The investigators, led by Dr. Lisa Saiman, associate professor of clinical pediatrics, found greater rates than previously reported of latent tuberculosis infection and infection with Giardia lamblia, a gastrointestinal parasite that causes cramping, diarrhea, and weight loss if untreated. The findings were published in the September 2001 issue of Pediatrics.
The results of a clinical study of the effects of Exisulind, a new drug that has been shown to slow tumor growth in men with advanced prostate cancer, were published in the September 2001 issue of the Journal of Urology. The study was the first of its kind to show a significant effect of a new class of drugs that may stabilize progressive, recurrent disease in patients with advanced prostate cancer.

“These results suggest that Exisulind may delay disease progression in men with recurrent prostate cancer,” says the principal investigator, Dr. Erik Goluboff, assistant professor of urology and director of urology at the Allen Pavilion. “This will subsequently prolong the time period between post-surgical PSA rise and the need for androgen deprivation therapies.”

Exisulind is from a new class of compounds called selective apoptotic anti-neoplastic drugs (SAANDs), which inhibit cyclic GMP phosphodiesterase and selectively induce apoptosis in abnormally growing pre-cancerous and cancerous cells. Because SAANDs do not induce apoptosis in normal cells, they do not produce most of the adverse reactions or serious side effects normally associated with chemotherapeutic agents.

Other available therapies, such as drugs, hormones, or radiation, try to limit spread of the disease and increase survival time by shrinking or stabilizing tumors but can impair patient recovery with severe side effects. “For instance, hormonal therapy produces high response rates in metastatic prostate cancer, but patients develop resistance over time,” says Dr. Goluboff. “The side effects of hormonal treatment can significantly impact the patient’s quality of life. New treatment options that might delay the need for such side effect-prone therapies could provide great benefit in the management of prostate cancer.”

Previous studies in mice showed that Exisulind inhibits the growth of prostate cancer by 80 percent to 90 percent. In a related study of patients, researchers found that the drug also causes regression in the growth of precancerous colonic polyps, a condition that often leads to colon cancer.

For 12 months, the trial followed 96 prostate cancer patients who already had their prostate glands removed. All had rising PSA levels indicating recurrent disease. Half received Exisulind, and half received a placebo. The researchers measured the drug’s ability to slow or halt disease progression by following PSA levels. High levels of PSA are associated with more aggressive disease.

Imaging tests were performed before and after the study. All of the men were classified into risk groups with no statistical difference in age, race, and weight. The study showed a significant decrease in the rate of rise in PSA in patients given Exisulind compared with placebo.

Dr. Goluboff cautions that more research needs to be conducted to determine long-term effects in patients and in other groups of patients with prostate cancer. The study was funded by Cell Pathways, developer of the drug Exisulind.
PEACEFUL SLEEPING

Sleeping for some people can be a real nightmare. They are continually jolted by interruptions in breathing, sometimes 100 times a night for up to 30 seconds or longer, due to blockage in the airways of their throat. To catch their breath and bring oxygen back to normal levels in their blood, these sleepers will repeatedly snore and gasp throughout the night.

Such “obstructive sleep apnea,” or breathing cessation due to a physical hindrance by tissue, can be life-threatening, leading to high blood pressure and heart failure. Exhaustion from many bad nights of sleep may be responsible for memory problems, job impairment, and motor vehicle accidents.

Affecting up to 12 million Americans, sleep apnea is common but remains under-diagnosed because many doctors are unaware of the problem. That is changing. As part of that trend, the Department of Medicine recruited Dr. Robert C. Basner in 1999 to direct a new sleep laboratory that would diagnose all sleep problems, including those due to insomnia and those due to disordered breathing from sleep apnea, stroke, heart failure, emphysema, and asthma. Sleep apnea can exacerbate the symptoms of cardiovascular diseases. Sleep apnea also can be caused by nervous system involvement, but such cases are rare.

The best way to diagnose obstructive sleep apnea is at a sleep laboratory. Dr. Basner says, where a patient undergoes constant heart, blood pressure, oxygen, breathing, brain, and video monitoring while asleep to characterize the extent of the disturbed slumber.

Dr. Basner, associate professor of clinical medicine and director of the sleep and ventilatory disorders program in the Department of Medicine’s pulmonary allergy, and critical care medicine division, managed the construction of the two-bed facility and saw his first patient in the lab in September 2000. The lab, called the Cardiopulmonary Sleep and Ventilatory Disorders Laboratory, now studies up to eight patients a week and provides clinical consultation and evaluation for 5 to 10 new outpatients per week and performs inpatient evaluations, too. The most common sleep problem diagnosed is obstructive sleep apnea.

Patients come into the facility at 8:30 p.m. and are hooked up with electrodes on their heads, scalp, temples, chin, chest, and legs. Nasal and oral airflow and pressure are measured with a device hooked to the base of the nose and over the mouth. Carbon dioxide and oxygen levels are continuously monitored with similar devices. Continuous measurement of the heart rhythm and blood pressure is also a major component of the sleep monitoring in the laboratory. Patients usually go to sleep at around 10 or 11 p.m. but the laboratory also accommodates shift workers who sleep during the day.

If a patient is diagnosed during the testing with low oxygen levels due to sleep apnea, the technician will awaken and treat the patient. Treatment usually consists of nasal continuous positive airway pressure—CPAP—in which a mask is fit over the patient’s nose and pressure from a blower pushes air through the nasal passages. “CPAP is not a cure,” Dr. Basner says. “If patients don’t use the device, their condition will return, and not all patients improve with CPAP.” Some doctors offer surgery to help open up the passageways, but Dr. Basner says that positive airway pressure is usually the most effective treatment.

Besides clinical care and education of the medical community in the sleep physiology and pathophysiology, the laboratory’s other mission is research. Dr. Basner is trying to find new ways to characterize the cardiovascular responses in a population of sleep apnea patients. Some sleep apnea patients will develop high blood pressure; others will not. Dr. Basner wants to know why.
Preliminary findings indicate some patients with sleep apnea who have reduced blood oxygen have increased stiffness in their arteries although their blood pressure remains unchanged. Dr. Basner measures vessel stiffness with a non-invasive device on the patient’s radial artery that quantifies how—after a heart beat—the blood backs up in the vessel rather than moving away from the heart.

Dr. Basner believes this increased stiffness might be an early step toward developing the chronic high blood pressure often associated with sleep apnea, but he has to do more research to prove it. “If we can identify sleep apnea patients who might be at risk for developing high blood pressure,” Dr. Basner says, “then, perhaps, we could treat them earlier and prevent this major problem associated with sleep disordered breathing.”

A Long Tradition of Sleep Study

P&S and Columbia-Presbyterian Medical Center have a long history of involvement in sleep. In 1972, Neil B. Kavey ’69, clinical professor of psychiatry, working with Dr. Donald Kornfeld, professor of psychiatry and associate dean, started studying the sleep patterns of surgical patients in the hospital. That work led to the study of medical center patients with sleep disorders, and in 1978 the Sleep Disorders Center opened with Dr. Kavey as director.

In the mid ’90s the center moved to new and enlarged three-bed quarters in the Herbert Irving Pavilion and opened a satellite facility in White Plains.

The Sleep Disorders Center is one of the oldest in the United States and one of the most renowned in the world. It was one of the first centers to be fully accredited by the American Academy of Sleep Medicine. The center functions in a multidisciplinary manner with three doctors board-certified in sleep medicine at the helm and consultants from almost every department of P&S. Patients come from all over the world. The center’s doctors see 1,200 to 1,400 patients a year.

Patients can be sent directly for a sleep study by their medical center physicians or can be referred to the sleep center for consultation. In many cases of insomnia one visit is sufficient for a diagnosis to be made and a treatment plan developed. Often a sleep study is not needed, but a complete physical evaluation by the referring physician is part of the routine.

During the sleep study technicians record physiological functions specified by the sleep center doctors as necessary to establish a diagnosis. Computers record and process more than 1,000 pages of data, which are then studied by the sleep center doctors. (In the late ’70s Dr. Kavey and Columbia’s computer science department developed one of the first computer programs to process the massive amounts of data produced in a sleep study. The program was used by many centers around the country and was one of the bases for the more elaborate programs used now.)

The Sleep Disorders Center has expertise in all aspects of sleep medicine. Snoring and sleep apnea are two of the most common presenting problems. While nasal CPAP remains the gold standard, Dr. Kavey, with Dr. Jonathan Aviv, professor of otolaryngology, Dr. Jeffrey Ahn, assistant professor of otolaryngology, and Dr. Stephen Syrop, associate clinical professor of dentistry, are working on new ways to treat these disorders.

While many sleep center patients present with insomnia, excessive daytime sleepiness is also one of the most common complaints. Narcolepsy is the term most people know, but the actual disorder of narcolepsy can be easily confused with other disorders of excessive sleepiness. Dr. Kavey will publish a new protocol for clinicians to fine-tune the diagnosis, after presenting the protocol at a meeting of the Association of Professional Sleep Societies.

The center is also well known for its published work and expertise on “parasomnias,” disorders such as sleep walking, sleep talking, and sleep terrors. These REM sleep behavioral problems often hit people 55 years and older, explains Dr. Kavey. As some people age, the area in the brain that keeps people immobile and mute when they dream becomes less than 100 percent effective. Affected individuals shout out at night and can get up and walk around while they are dreaming. They also can become violent, either hurting themselves or their partners. The center is trying to understand how sleep walking and sleep terrors occur.
Her name may be “Flora II,” but she is no shrinking violet.”She” is the $1 million da Vinci robotic system that P&S surgeons use to perform minimally invasive surgical procedures in the heart, chest, and abdomen. Although the Food and Drug Administration has approved the device only for non-cardiac thoracic and abdominal surgeries, Columbia cardiac surgeons are pioneering research and leading clinical trials to expand the robot’s utility. Other surgeons also are using, or planning to use, the robot for gastrointestinal, pulmonary, and urological operations.

Columbia’s cardiac surgeons have the most hands-on experience with “Flora II.” Last July, Columbia cardiac surgeons performed the first totally endoscopic atrial septal defect repair in the United States in a 33-year-old woman. Traditionally, surgeons have corrected serious atrial septal defects through 8- to 10-inch incisions, cracking the breastbone to access the heart.

With the robot, the surgeons make three pencil-sized holes, about a third of an inch in diameter, between the ribs of a patient. Through the holes, the doctor threads the robot’s endoscope (containing two tiny cameras) and the two miniature metallic robotic hands, which consist of flexible “wrists” attached to pincer-like digits that do the work.

Several feet away from the operating table, the surgeon peers through a view-finder and sees 3-D images inside the patient. The endoscopic cameras feed stereoscopic video to the surgeon’s eyes on a console. With hand-held controls under the console, the surgeon manipulates the robot’s camera and small metallic hands inside the patient. To effect precise motions inside the chest, the external robotic appendages, which are quite large, flail around above the patient.

“Manipulating the robotic controls takes some getting used to and you don’t have the same tactile feedback as traditional surgery,” says Dr. Michael Argenziano, assistant professor of surgery and director of robotic cardiac surgery. “But much of what surgeons believe is a palpable sensation is actually visual. You may lose that sense of touch but your other senses become enhanced.”

The robot enhances the cutting, clamping, and suturing actions surgeons perform. Its mechanized wrists can move throughout nearly 360 degrees of space and are less susceptible to tremors than the human hand.

Patients benefit from robotic surgery through smaller wounds, less pain medication, faster healing, and less time in the hospital. The downside
of “Flora II”—until surgeons become more proficient—is that procedures take longer. While the method is not appropriate for all patients, patients have demonstrated interest in having the robot operate on them, Dr. Argenziano says.

Columbia surgeons, including Dr. Argenziano, Dr. Craig R. Smith, chief of cardiovascular surgery; and Dr. Mehmet C. Oz, director of the Cardiovascular Institute, are involved in all the other cardiac clinical trials that Intuitive Surgical, da Vinci’s manufacturer, is undertaking. That includes mitral valve repairs, atrial septal defect repair, coronary artery bypass graft operations, and atrial fibrillation ablation on a beating heart. Dr. Argenziano serves as the principal investigator for an upcoming totally endoscopic coronary artery bypass (CABG) multicenter trial, in which he will perform the first totally endoscopic CABG in U.S. history.

Prostate removals, lung resections, and gall bladder extractions are also on the horizon. But before they can use “Flora II,” surgeons get special training. Dr. Marc Bessler, director of laparoscopic surgery, expects the robot to improve his gastric bypass surgeries because he will be able to suture the stomach to the intestine with “Flora II.” He now does the procedure laparoscopically and staples tissue, which can narrow the opening in the intestine too severely.

The U.S. military initially conceived of a surgical robotic device for surgeons to operate on critically wounded soldiers from a safe distance. Although telesurgery with a robot is possible, for now medical staff must be present at the patient’s beside. In time, the robot could become an educational tool. Software developers could create simulations of procedures, which students and experienced physicians could perform.

Flora Wang, the OR nurse who is the robot’s namesake, maintains and monitors the device. But, she quips, the robot’s continued success may persuade the hospital to replace her with a machine. “Flora II” has a home at Columbia because many people want to keep P&S at the frontier of medicine. They include Dr. Gerald Fischbach, executive vice president and dean, who identified the resources for the initial purchase; Dr. Eric Rose, chairman of surgery; Dr. Dennis L. Fowler, director of minimal access surgery at New York-Presbyterian Hospital for both the Columbia and Cornell campuses (he was the first surgeon in the United States to perform a laparoscopic colon resection); Dr. Craig Smith, and Dr. Mehmet Oz.
Chronic Lyme Disease: Is It or Isn’t It?

BY JACK LUENTINI

Borrelia burgdorferi, the bacterium that causes Lyme disease, penetrating into human B lymphocytes, cells of the immune system.

He still doesn’t know how it happened, but Brad got Lyme disease in 1994. Early on, he only felt some of the usual symptoms of the illness, caused by a tick-borne bacterium. “I was nauseous. I just didn’t feel good,” says Brad, a northern Michigan resident who does not want his real name used.

Brad later developed headaches, memory lapses, paranoia, and fatigue. Only when he appeared completely confused did a medical workup reveal antibodies against Lyme disease in his body. An initial course of antibiotics dramatically reduced the symptoms, but eight weeks later he developed painful, tender joints and severe confusion.

When a doctor showed him a simple geometric design and asked him to copy it, he could muster only a scribble that looked like a 3-year-old’s work.
Most patients are cured of Lyme disease after one stiff course of antibiotics. But a small percentage, like Brad, see symptoms return—and sometimes worsen—despite the initial treatment. Fortunately, a renewed course of antibiotics brought dramatic improvements for Brad. Not all patients are so lucky: Many patients who believe they have continuing symptoms of Lyme disease find that their symptoms remain disabling, waxing and waning for years.

These patients are at the center of a national controversy, because the medical world has not reached a consensus on how to treat them. Doctors and researchers disagree over whether cases like Brad's represent a chronic form of Lyme disease or some other mysterious condition. P&S researchers are trying to help resolve the question through a detailed study at the New York State Psychiatric Institute, where doctors are focusing on the mental aspect of what is called chronic Lyme disease.

The Columbia researchers believe the condition may be caused by a persistent infection or by immune system damage following the initial infection. Either way, the symptoms include diffuse pain, severe fatigue, recurring headaches, peripheral tingling and/or numbness, and more
neuropsychiatric effects, such as confusion, memory loss, distractibility, irritability, mood swings, anxiety, and sleep disturbances. “The mood swings and irritability tend to be most problematic in the acute phase of neurologic Lyme disease, whereas later the fatigue and short-term memory loss become more of a problem,” says Dr. Brian Fallon, associate professor of clinical psychiatry and director of the Lyme Disease Research Program at the Psychiatric Institute. He leads the Columbia study, which focuses on patients with persistent cognitive problems despite prior treatment. The research focus was determined because of the lack of rigorous research on this subgroup of patients and because the study can exploit the use of Columbia’s world-class brain imaging facilities. Researchers hope the study will begin to help answer larger questions about Lyme disease. The study, Dr. Fallon explains, will assess whether a renewed course of antibiotics helps a significant number of patients with chronic symptoms. If it does, it means the bacterium must still be hiding out somewhere in the body, validating the belief among some patients and doctors that a persistent infection causes the chronic form. If it doesn’t, that would back the contention of others that chronic Lyme disease is not due to a persistent infection—that it’s being confused with some other post-infectious condition that would call for different therapies. It’s far more than a sterile, academic issue. Many patients who believe a persistent infection causes their symptoms are bitter at what they see as a medical establishment that conspires to deny them treatment. Physicians who are skeptical of chronic infection are the dominant camp for now. These physicians and the Infectious Diseases Society of America have recommended against prolonged courses of antibiotic therapy, leading insurance companies to deny coverage for antibiotic treatment.

Yale University researchers first identified Lyme disease in the United States, following a 1975 rash of cases in Old Lyme, Conn. The project was led by Dr. Allen C. Steere, a 1969 P&S graduate. Dr. Stephen E. Malawista, a 1958 graduate, is a co-discoverer of Lyme disease.

The Yale researchers developed a standard treatment for Lyme, trusted by many clinicians nationwide, which involves three to four weeks of antibiotic therapy in most cases. This usually provides a cure, if the illness is caught within a few months. But it can fall short when the disease is caught late, which may account for most of the known cases of chronic Lyme.

The confusion over how best to treat patients with Lyme disease extends to other aspects of the illness, too. For instance, perhaps the most well-known symptom of Lyme disease is a target-shaped rash. But experts say the rash can take many other forms, which complicates the diagnosis.

Few studies have included patients who didn’t recall seeing the rash and who, therefore, had a more advanced illness before getting medical attention.

“This is part of the reason why the chronic Lyme has become such a contentious issue,” Dr. Fallon says. “Most researchers have used the rash as the criterion for diagnosis.”

It also has been frustrating to develop tests to...
diagnose Lyme disease, further complicating the issue. While it’s easy to culture the organism from the target-shaped rash—called erythema migrans—it becomes progressively harder to isolate for culture after the bacterium disseminates into the tissue. “One would not want to do random biopsies of the brain fishing for the organism,” says Dr. Fallon.

Because of the lack of research of chronic Lyme, support for this project has been significant, Dr. Fallon says. “We’re getting a tremendous community response in terms of people calling to participate,” Dr. Fallon says. “We’ve screened over 1,400 patients.” The study will include 45 patients who have had Lyme disease and 20 controls. “Patients are so extraordinarily grateful for this work,” he adds. “A patient came up to me just last week and told me, ‘It must be so satisfying for you to do research that patients really appreciate.’ She was right.” Dr. Fallon and colleagues have obtained a $4.7 million grant from the NIH for the four-year study, which is in its initial stages. The study builds on the results of a pilot project that suggested that a longer course of therapy might significantly help patients who had been treated but who had persistent or relapsing symptoms. Other studies have provided conflicting results. A New England Medical Center and New York Medical College study, published in the July 12, 2001, issue of the New England Journal of Medicine, concluded that antibiotic treatment for patients with persistent Lyme disease symptoms was no more effective than placebo.

However, Dr. Fallon believes those results aren’t the last word because they might have depended on factors specific to that study, such as the particular antibiotic regimens used or the way outcome was measured. The Columbia study will take two main approaches. First, researchers will assess the effects of a 10-week intravenous antibiotic therapy in patients ages 18 to 60 who have persistent problems with memory, verbal fluency, or attention after having contracted Lyme disease. Second, the researchers will compare two types of brain scans of Lyme disease patients: PET and MRI. Both types highlight brain abnormalities in some Lyme patients. Doctors will assess whether problems appearing in each type of scan are correlated with each other, with cognitive deficits, and with a given therapy’s chances of success.

Meanwhile, support for the Lyme disease research is arriving from local and national organizations. Lyme disease task forces that have formed in Greenwich and Wilton, Conn., financially support Columbia’s work. So too does a national group, the Lyme Disease Association. The Greenwich task force has pledged to fund a Columbia Lyme Disease Diagnostic and Research Center that could open within the next year. This would provide coordinated, interdisciplinary patient care and support for research projects nationwide. “We’re going to make it a national resource,” Dr. Fallon says. More information is available on Columbia’s Lyme disease website, www.columbia-lyme.org.
The Summer of 1999 will be remembered by New Yorkers as the summer of drought conditions, intense heat, a medical center neighborhood blackout, dead birds, mosquito spraying, and the addition of a phrase into our vocabulary: West Nile virus.

In “West Nile Story,” Dr. Dickson Despommier, professor of microbiology at P&S and professor of parasitology at the Mailman School of Public Health, writes about the diagnosis of the virus—first mistaken as St. Louis encephalitis—and the weather and related conditions that preceded the arrival of the virus. This excerpt tells about the scientific process and teamwork that ultimately diagnosed the first American case of the West Nile virus. The book also explores bioinvasion, the impact of globalization on emerging diseases, and the role of the mosquito as evolutionary villain. The author also celebrates a positive outcome of the 1999 virus outbreak: “Most scientists involved directly in the original outbreak agree that the WNV epidemic of 1999 has resulted in the establishment of lines of communication among groups that had never been in contact with one another. Continuation of these interactions most likely will lead to a stronger surveillance system for all kinds of diseases.”

Source: Centers for Disease Control and Prevention
As the illness progressed, it became increasingly apparent that viral encephalitis was the correct diagnosis. Within three weeks of admission, three elderly patients died.

“West Nile Story”

By Dickson Despommier, Ph.D.
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The Mysterious Stranger

Six people were admitted to Flushing Hospital in Queens, N.Y., between Aug. 12 and 23, 1999, with similar enough symptoms of high fever, altered mental status, and headache to make it probable that they were suffering from the same thing.

A routine culture screen for a few suspected bacterial or fungal microbes was negative, although that wasn’t surprising since the growing suspicion was that these patients were experiencing an encephalitis-like disease, probably of viral origin. As the illness progressed, it became increasingly apparent that viral encephalitis was the correct diagnosis. Within three weeks of admission, three elderly patients died.

As a first step in the process to identify the cause(s) of illness, the Centers for Disease Control and Prevention in Atlanta sent samples of blood and cerebrospinal fluid collected from each patient, along with brain tissues from the deceased victims, to Dr. Duane Gubler, director of the Division of Vector-borne Diseases Laboratory at the branch of the CDC in Fort Collins, Colo. The answer came back quickly. The illness was probably caused by a single agent, the St. Louis encephalitis virus (SLE). Diagnosis was based on an antibody reaction routinely used in Dr. Gubler’s laboratory to identify that encephalitis-causing virus. However, as good and reliable as that test was, it was not specific enough to distinguish among viruses causing encephalitis in the United States and those found elsewhere.

To confound things even more, the Queens serum samples gave a positive but weak reaction, to which the closest match was the St. Louis encephalitis virus. The Fort Collins serologists concluded that it must be SLE, since it was the most likely choice. They might have reasoned that the lack of a strong positive reaction probably related to the specific (new?) strain of SLE involved in the outbreak. A slight difference in protein structure of the viral particles could result in a weakened intensity of the interaction of antibodies with the virus without changing the diagnosis. That they failed to test the sera against the West Nile virus (WNV) was not unusual considering that the WNV agent had never before been encountered in the Western Hemisphere. Therefore, even though the CDC had all the proper reagents and the capability to detect the West Nile virus, the test was never run.

Hearing Hoofbeats

A commonly held adage among pathologists in the United States that has been adopted by many other health professionals as their credo when they encounter the unknown or unfamiliar is: “When you hear hoofbeats think
horses, not zebras.” In other words, start solving a problem by considering the most likely scenarios first before moving on to more exotic possibilities.

St. Louis encephalitis infections had occurred before in New York state but never in New York City. Finding it there did not seem entirely out of the realm of possibility. Again, the most reasonable explanation for the cause of the encephalitis outbreak seemed to lie in the positive, albeit weak, antibody reaction to the SLE virus. The physicians at Flushing Hospital were notified of the findings, and all personnel involved with the epidemic at the NYC Department of Health and CDC went about the job of determining how many other cases there were throughout the New York area. Since the virus is transmitted to humans by the bite of infected mosquitoes, it was reasoned that it was probably in other places, too. In retrospect, the hoofbeats were from zebras.

By the sixth of September, things began to escalate on all fronts. There were now five confirmed cases, as many as 34 others awaiting final diagnosis, and the first deaths. Although hundreds of native bird deaths had been recorded throughout the city starting in late July, it wasn’t until Sept. 9 that exotic birds began dying at the Bronx Zoo. Dr. Tracy McNamara, a pathologist there, quickly became involved in the unfolding drama. After autopsying all the birds that died inside the zoo exhibits, and some that had died
outside the zoo, she was no closer to explaining their deaths than before her investigation began. Dr. McNamara suspected, based on the similarity of their presenting pathological conditions, that they had all been killed by the same disease, but she was unable to identify the disease without further testing.

No one working either from the human epidemic or the wildlife epidemic made the connection between the two. More zebras.

The next day, another human case was confirmed, and the number of suspected cases rose to 48. This was now more than just a worrisome local health problem in Queens. That evening, specially equipped helicopters hovered above major highways and residential areas deemed most at risk from invasion by mosquitoes and sprayed misty clouds of insecticide (malathion and pyrethriods) in their wake. A general health warning was issued by Dr. Neal Cohen, city health
commissioner, about how to avoid contact with both mosquitoes and the insecticides.

By Sept. 13, 11 confirmed cases, three deaths, and a total of 65 probable cases had been identified. Nearly all these were over the age of 50. Numerous reports of new dead bird sightings made the headlines of local and national news, and the infection cast its shadow over a widening range of hosts and territory.

A Test Pool

Some mosquitoes collected from Connecticut tested positive. By combining small samples of the same species of adult mosquitoes into “pools” then analyzing each pool for virus, virologists, using the same test as the CDC, showed that Culex pipiens and Aedes vexans harbored the St. Louis virus particles.

On Sept. 20, the CDC took another long look at all their test results and began to suspect that the illness was not St. Louis encephalitis after all. The same day, the CDC laboratories in Fort Collins received additional specimens from the scene of the outbreak: tissue samples from dead birds (crows and exotics from the Bronx Zoo).

The CDC conducted additional tests on the brain tissues of deceased victims to look for the virus. Dr. Sharif Zaki and his team employed an antibody test designed to detect the common protein shared by all flavivirus members. Their results were positive, revealing the presence of the virus family member protein in the brain tissue sections. This important finding encouraged investigators to proceed to attempt to isolate and
study the virus directly from these human tissue samples.

While all this activity was going forward, on Sept. 21, Dr. Ian Lipkin, director of the Emerging Infections Laboratory of the University of California at Irvine [and now a Columbia faculty member], was invited to join in the hunt by Drs. Leo Grady and Cinnia Huang of the Griffin Laboratory for Virological Studies at the New York State Department of Health in Albany. Grady and Huang submitted five brain samples from autopsies to Dr. Lipkin’s laboratory for further analysis.

Dr. Lipkin’s team began the work of sequencing the viral RNA genome. Remarkably, by the next day, they had identified a portion of the genome of the flavivirus in three of the brain samples as being related to the West Nile virus, and on Sept. 23, they had extracted the complete length of the virus’s single stranded RNA molecule and cloned it. Lipkin’s preliminary results were immediately e-mailed to a special internet site, ProMED (Program for Monitoring Emerging Diseases), a “chat room” for the exchange of preliminary data and ideas regarding epidemics occurring anywhere in the world. It is avidly visited on a daily basis by most scientists who specialize in infectious diseases.

Sequencing the cloned molecule, now converted to a more usable form (DNA) began that day and ultimately led to the identification of the specific virus responsible for the health problems in Queens. The work was finished in just a little over 24 hours.

**A Match**

Dr. Vincent Deubel of the Pasteur Institute in Paris, reading of Dr. Lipkin’s findings on ProMED, immediately made available sequences of cloned genomes collected from a variety of West Nile virus outbreaks in Romania, Egypt, Israel, Italy, and South Africa, among others. The genomic sequence that Dr. Lipkin’s group had determined from the virus in the brain samples from the Queens victims matched exactly with the strain that caused an epidemic in Israel in 1998—and with no other.

Dr. Lipkin informed the New York State health department and Dr. Steven Ostroff, the CDC epidemiology officer in charge of the epidemic, that his group had determined the complete viral genome sequence. The California team got it right, correctly identifying the causative agent of the encephalitis epidemic as none other than the West Nile virus.

Hurricane Floyd passed through on Sept. 16, breaking the weather conditions that favored the spread of the virus to humans. The epidemic was waning. No new cases were reported after Oct. 16. In all, 62 clinical cases and seven deaths had occurred.
For long-time P&S alumni and faculty, the most unusual event to happen to them during their medical school years was the blackout of 1965 or, more recently, the blackout of 1999. The events of Sept. 11, 2001, however, put memories of operating on or seeing patients during blackouts into a perspective thought unimaginable.

Granted, the two commercial airlines that crashed into New York City’s World Trade Center was an act of terrorism that didn’t happen at Columbia-Presbyterian Medical Center, and few of the injured were treated at the medical center, despite hospital personnel being put on high alert.

For a group of fourth-year students, including four M.D./M.P.H. students, the overwhelming need to “do something, anything” gave them a learning experience unrivaled in modern American medical education history.

Eric David’s journey to the World Trade Center began miles away, during his ICU rotation at Bassett Healthcare in Cooperstown, N.Y. “I was post-call, so I had not slept. I told my attending I simply had to go do whatever I could. He absolutely understood.”

Katerina Christopoulos was at home in the West Village when the planes hit. “I went to St. Vincent’s Hospital twice that day to see if they needed any help and there were hundreds of doctors and, sadly, no patients. That evening I grabbed a ride to a makeshift triage site that had been set up on the plaza of a building downtown but it was more of the same. On Wednesday, I decided to walk back downtown and the cops at the checkpoints told me that triage had been centralized in Stuyvesant High School, so I went there and spent the next three days involved in the efforts.”

Eamonn Vitt also lives downtown. “I was having breakfast with a friend in the East Village when the first plane flew overhead. We climbed to his roof to see what was going on. After the first tower fell, I ran to Beth Israel Hospital, just a few blocks away. The atmosphere was intense. A resident gave me a white coat, and we treated some walking wounded for minor injuries. Soon things became eerily quiet. I walked up to Bellevue, and there I bumped into a classmate, P.J. Nicholls. Like everyone, I wanted to help. Unlike most New Yorkers I had the advantage of the white coat and a medical student ID to help me past security and actually get to ground zero.”

Rebecca Bauer was at home in her Bard-Haven Towers apartment on the morning of Sept. 11. “I woke up to hear a constant stream of sirens down the West Side Highway. Because of the elevation of Washington Heights and the location of our apartment, we could see through our window straight down to the giant plumes of smoke radiating from the two towers. So many thoughts raced through my head, among them disbelief.
How could human beings do this to each other?’

David Spinks and Dustin Thomson were among the students motivated to put their education to use. “Like a lot of people with medical training, immediately after witnessing the events on Sept. 11, I felt that I should be able to help out in some way,” says Mr. Spinks. “Some classmates and I went to St. Vincent’s to try to volunteer. What we saw there was both moving and ominous: vast numbers of doctors, nurses, and other people of all backgrounds were arriving to be of assistance in any possible way, but, unfortunately, not enough people were being rescued from the ruins to keep the volunteers busy.”

“I made my way down toward my apartment, which is several blocks from St. Vincent’s and registered as a volunteer to draw blood, do patients, or whatever else,” says Mr. Thomason. “Sadly, as we all know, few patients ever made it to St. Vincent’s, and after I had drawn the last blood I was going to draw for the day (when the hospital stopped accepting blood) I walked down toward ground zero to see if there was anything I could do down there.”

P.J. Nicholls spent 14 days at ground zero. “Eamonn Vitt and I decided to leave the Bellevue ER and go to Stuyvesant triage to help out where there was a need. The next day we assisted where there was an even greater need: the triage in the American Express building.”

Rebecca Bauer: “I wanted to go down to volunteer because I was becoming increasingly frustrated and anxious about not being able to help. The lack of survivors seemed to be the most stunning aspect of the situation for all of the medical volunteers. I think that every health care provider in the city wanted to do something. I felt that even though I’m far from the end of my training, I hoped I knew enough to be able to be useful in some way.”

In the days following Sept. 11, the students did a variety of volunteer work. They organized supplies, distributed masks and helmets to workers, washed eyes, handed out analgesics, and transported supplies to points of need. “After we delivered the supplies, we basically looked for anything we could do to help out,” says David Spinks. “I ended up spending several hours assembling hard hats for the rescue workers (they were surprisingly confusing little things). I felt the work we were doing was helpful, but certainly not essential. It seemed that all of the really important tasks were already overstaffed; there were just so many volunteers. I’m afraid that my part was more a sort of therapy for me than anything else.”

P.J. Nicholls may have endured the longest as a volunteer. “P.J. has really done an amazing job,” says Jeremy Keenan. “He has volunteered personally at a variety of places, but more importantly he has served to get other people at P&S volunteering.”

“P.J. and Eric [David] and my other classmates...”
were so tremendously inspiring. Somehow, P.J. managed to stay down there for two more weeks. I don’t know how he managed to avoid getting kicked out—he’s incredible,” says Eamonn Vitt. “A bunch of fourth-year medical students took real leadership roles in a time of terrible crisis and did an amazing job. I feel so lucky to have them as classmates and friends. The P&S community should be incredibly proud.”

“After a few days of helping out medically,” says P.J. Nicholls, “I eventually coordinated food and supply logistics throughout the disaster area. There was a handful of us—all volunteers—making sure distribution met demand, either by requesting supplies from outside sources or by redistributing supplies already in the area.”

Mr. Nicholls continues to volunteer his time. “Please contact me at pjn13@columbia.edu if you want to continue helping over the next year. I’ll try to pick out the highest-yield volunteer opportunities for you. There are always needs that haven’t made it to the media yet.”

If it’s possible for anything to overpower the effect of the tragedy, the P&S students found it in the triage efforts and the unifying spirit among volunteers, rescue workers, and outsiders who cheered them on.

“There were two sights that very unexpectedly made quite a few of us cry,” says Eric David. “One was the dozens of people lined up along the West Side Highway by Pier 40. They cheered every emergency worker who came through. The second strangely moving sight was along Greenwich Street a few blocks up from ground zero. Parked there in the middle of utter chaos was a McDonald’s truck with workers who cooked Quarter Pounders and Chicken McNuggets around the clock. The sight of something so familiar on a street that had been transformed into something so unrecognizable was oddly comforting.

“The people I met down there are, needless to say, among the most inspiring people I have ever known,” Mr. David adds, “and I am grateful for the camaraderie which we shared over such a brief and intense period. I cherish every fireman, police officer, and volunteer I met, along with the stories, fears, and hopes they shared. I am so filled with pride that I had the opportunity to work with them. In the end, nobody who works down there does it for the recognition. They do it because we are a nation united.”

“The volunteer medical response of New York and the surrounding areas was tremendous,” says Katerina Christopoulos. “Not just in terms of personnel—everyone from nurses to medical students to trauma surgeons was there—but also with regard to the supplies that were donated, boxes and boxes of gloves, masks, betadine, alcohol, etc. A bunch of ortho residents from Columbia showed up with central line kits and trays to do amputations. Admittedly, this outpouring made for some crucial gaps that no one had anticipated; for instance, there was not a single glucometer or thermometer in the Stuyvesant triage. But still, the generosity of spirit was amazing and made all the more remarkable that the whole operation got up and running without one single person being in charge—it was just goodwill, plain and simple.”

Eamonn Vitt remembers one woman—an actor in her late 20s—who put herself in charge of getting medical supplies from Chelsea Piers to the triage center at Stuyvesant High School. “Her only previous medical experience was playing a nurse on the TV show, ‘Oz.’ Everyone helped out.”

The scene at Stuyvesant High School in lower Manhattan was chaotic. “There was no central chain of command,” says Jeremy Keenan. “There were simply many good-hearted people trying to help. And yet, even though there were no orders given, things managed to get done. Through the help of this mishmash of volunteers, a fully functioning clinic was set up, with no help from any official agency. It was amazing to see how such different people could come together in a time of such disaster and crisis and manage to make something positive out of it.”

Rebecca Bauer: “Among all of this destruction, I saw the most beautiful thing I have seen in my 26 years on this Earth: The response. The firefighters and police officers and EMTs on the site were beyond inspiring. Some of the guys had been working straight through since Tuesday morning with no rest. There was a line of about a hundred guys who were waiting to
relieve the workers at the site, but it moved at a snail’s pace simply because there were few workers to relieve. Once they were down in the pit, they stayed. Only when it started raining did they come inside, and even then it seemed mostly because the welders’ torches were being blown out by the wind and rain. As soon as the rain would show signs of letting up, even a bit, they’d wake each other up and head back out.”

David Spinks: “I think the main thing I learned from the experience was just a little bit about human nature. Among the pounds and pounds of donated food, I saw hundreds of handmade lunchmeat and peanut butter and jelly sandwiches, individually wrapped in tin foil and plastic sandwich bags, and it struck me just how much personal care had gone into all of the donations. I saw firefighters stumble in from the wreckage, flop down on a seat or a window ledge for a quick nap while sitting up, only to get back out to work a few minutes later. Even though many people had been going for hours or days with hardly any sleep, no one argued or bickered. People down there had a selflessness, compassion, resolve, and sense of deep connection with each other that was palpable. It was the kind of spirit that I’ve always told myself I believed existed, but that I somehow always doubted anyway. I don’t doubt anymore.”

The experiences of the students mostly served to reinforce their professional plans.

“I am taking this year to do an M.P.H. and am pursuing the track offered in forced migration and complex humanitarian emergencies,” says Katerina Christopoulos. “I never dreamed I would have field experience in New York.”

“The most intense experience for me was seeing recovered bodies,” says Eamonn Vitt. “During those times I tried to meditate on the scale of the sadness and the reality that this is mass murder, this is the true face of war, this isn’t CNN, this has got to stop. Every medical student and physician at ground zero was reminded in a most unfortunate way of why they went into medicine. Undoubtedly we will all be stronger during difficult times in the future. My plan has always been to work with the urban underserved domestically, but also work with a group like Doctors without Borders. The experience at ground zero provided a real taste of what relief work in disaster conditions is like. My plans haven’t changed.”

David Spinks: “I have always planned to work in a medically underserved area after graduation, and that has been based on my belief that doctors can and should play a more effective social role in relieving suffering than they frequently do. Even though I wasn’t able to make use of my medical training in this instance, the strong presence of doctors and nurses at ground zero reinforced that belief.”

Jeremy Keenan, an M.D./M.P.H. student: “I learned that even without a pre-arranged plan, people can come together in times of crisis and draw off each other to help set up needed services. As a student of public health, I saw some things that could be improved for future disasters. God forbid anything like this happened again, I think I could approach a situation like this a little differently. I could hopefully draw off of this experience to help things run more smoothly in the future. Although I am doing the MPH because I want to do international health, I think this experience has caused me to also consider getting involved with domestic public health systems.”

Rebecca Bauer, also an M.D./M.P.H. student, said the disaster and her experience as a volunteer helped her focus her plans. “I realized that I’d like to be trained in medical/public health management of disaster situations, not just because of the impact of natural disasters, but also because, unfortunately, this is probably not the last we’ll hear from terrorists.”

P.J. Nicholls: “The No. 1 health concern following the disaster has been mental health, so I’m glad I’m going into psychiatry. And I’m now definitely interested in posttraumatic stress disorder and other psychologic effects of crises.”

Dustin Thomason: “I think the most memorable thing for me was to watch grown men—firefighters and cops—who had so much pride and were so tough break down in tears in front of us because men from their ladders and battalions had gone down with the building. That was definitely the thing that affected me most. I feel like in the end, our assistance that first day was little more than cosmetic: We held their hands. If only it could have been more.”
ADHESION AND PATHOGENESIS

Genetics brings clarity. Genetics was on the mind of dental researcher and clinician Daniel Fine as he scraped the teeth of a Washington Heights adolescent with juvenile periodontitis. The bacterium he recovered, Actinobacillus actinomycetemcomitans (Aa), forms tight films—it will stick to teeth, plastic, or heart valves. Although it was first described in 1912, the genetics of Aa was undeveloped, so an undergrowth of confusing lore had grown up around it. For one thing, Aa tends to produce colonies on petri dishes that are rough or smooth, the former being adhesive and virulent, the latter not. Worse, the smooth colonies always seemed to take over the liquid cultures, making it hard to study virulence. This tendency to vary from rough to smooth stymied research, until Dr. Fine joined forces with David Figurski, professor of microbiology, and his students, Scott Kachlany and Paul Planet.

Geneticists like pure cultures. They do not like bacterial strains that change inexplicably. The Figurski lab realized that if they grew Aa in a flask the rough (virulent) form would stick to the sides of the flask. Non-adherent mutant forms would outgrow the adherent ones, making for mixed cultures and experimental chaos. The lab discovered that if the rough form is cultured on solid medium, pure cultures of virulent bacteria can be maintained. It was a simple discovery but it made everything else possible.

With stable cultures in hand, the group wanted to know if they could mutate the bacteria so that...
they no longer stick. Furthermore, they wanted to know the genes and the proteins responsible for adhesion. That you could isolate non-adhesive cells was a given—there were all those smooth variants that did not stick to anything. But among the several thousand Aa genes, how could you find the few that are responsible for adhesion to teeth or plastic?

To solve this problem, Scott Kachlany put a sophisticated piece of DNA into Aa. In this case, the inserted DNA sequence was designed to jump into other genes randomly, which is the property of well-characterized elements called transposons. Think of a book, say “Moby Dick.” Each sentence would be the equivalent of a gene; it’s not a bad analogy since both sentences and genes hold information in code. Suppose that the first sentence, “Call me Ishmael,” could jump into the middle of other sentences. It would create gibberish without entirely ruining the text since you get only one jump per book. Transposons mutate genes in an analogous way. In a particular bacterium any gene could be wrecked by the transposon.

In a large population, some bacteria will have their genes for adherence mutated by the transposon, and these will make smooth colonies.

The key is the transposon. It is easy to spot—like “Call me Ishmael” is easy to spot. Once you have found the transposon, you can make out the gene into which it jumped. You would then know where you are in the genome.

The group discovered that the transposon had jumped into a group of genes that regulate adherence. These are now called the tad genes, for tight adherence. The protein that mediates adhesion to teeth or plastic is encoded by a gene called flp-1 and is the major constituent of pili. Pili are fibrils that the bacteria secrete and are required for adherence to surfaces. Mutating flp-1 or any of the nearby genes eliminates the pili and adhesion to plastic. There are still mysteries. How do the pili stick so tightly to surfaces? What do the other genes do? The other tight adherence proteins probably form part of a secretion apparatus to get the flp-1 protein out of the bacterial cells. How they do this is another mystery.

Do other bacteria have adhesion genes? Biologists do not like to think that nature invented everything over and over again. They are schooled in parsimony. The group found that a variety of unpleasant bacteria have tad genes and most have some (or all) of the genes lined up in the same order as in Aa: Mycobacterium (tuberculosis), Bordetella (whooping cough), Yersinia (plague), and many others. But how did they get there? Were these genes inherited from a common ancestor of all the disparate species? Paul Planet’s analysis suggests that the tad genes were transferred between distantly related bacteria, jumping from one species to another. What is not yet known is whether deleting the tad locus in these species reduces their pathogenicity. The motivating thought is that in infection, as in retailing and real estate, location is everything. Some of these pathogens, but not yet Aa, have animal models to ask whether adhesion is necessary for pathogenicity. It might even be the case that infection with a tad mutant promotes protection from the virulent strains. As I said, genetics brings clarity.

Dr. Fine is now director of dental research at the University of Medicine and Dentistry of New Jersey.
THOMAS JESSELL NAMED TO INSTITUTE OF MEDICINE

Dr. Thomas Jessell, professor of biochemistry and molecular biophysics, was among 60 new members elected to the Institute of Medicine of the National Academy of Science in October. Members are chosen for their high standard of scientific integrity and for their major contributions to health and medicine or related fields.

Dr. Jessell’s lab examines the molecular mechanisms by which neuronal cell types in the vertebrate central nervous system are generated and interconnected, particularly sensory and motor neurons in the developing spinal cord.

Dr. Jessell joined Columbia University in 1985. He is also a Howard Hughes Medical Institute investigator.

The IOM, with an active membership of 632, advances and disseminates scientific knowledge to improve human health. With their election, members make a commitment to devote a significant amount of time as volunteers on committees engaged in a broad range of studies on health policy issues. Current IOM projects include studies on improved care for dying children and their families, the protection of public health in the 21st century, the safety and effectiveness of the anthrax vaccine for the U.S. military, the causes and prevention of adolescent and adult suicide, elimination of racial and ethnic disparities in health care, and the consequences of having a large population without health insurance.

WAYNE HENDRICKSON: UNIVERSITY PROFESSOR

Dr. Wayne A. Hendrickson, one of the world’s preeminent structural biologists, has been named University Professor, the highest academic rank at Columbia.

Dr. Hendrickson joined the P&S faculty in 1984 as a professor of biochemistry and molecular biophysics. His work has led to two important contributions to the field of X-ray crystallography, a technique used to determine the 3-D structure of molecules. He invented and perfected a method to speed the determination of atomic structures for biological molecules from the X-ray diffraction of crystals. He also developed software programs widely used in interpreting X-ray data.

Says Dr. Hendrickson: “I take this as a vote of confidence in our work—not just as recognition of past accomplishments but also in expectation that we may continue to contribute in the future. That endorsement motivates my dedication to the goal of making significant discoveries and analyzing them in a scholarly fashion.”

The appointment as University Professor recognizes exceptional scholarly merit of the highest distinction and distinguished service to the University. Dr. Hendrickson joins Drs. Eric Kandel and Richard Axel as Health Sciences faculty holding the rank of University Professor.
JOURNAL OF CLINICAL INVESTIGATION: ANOTHER MARKS AT THE HELM

The editorial board of the Journal of Clinical Investigation (JCI) of the American Society for Clinical Investigation is now at P&S. This is the fourth time Columbia has been selected for this honor; the last time was from 1966 to 1970. At that time, the editor was Dr. Paul Marks. This time, the editor will be his son, Dr. Andrew Marks, the Clyde and Helen Wu Professor of Molecular Cardiology.

“The JCI is an important journal that publishes the highest quality biomedical research,” says the younger Dr. Marks. “It is edited by a board of scientists who are actively involved in biomedical research. It is a tribute to the strength of the faculty here to be chosen for the next editorial board. This is a special honor for me in particular as my father, Paul Marks, was the last previous editor of the JCI here at P&S and it is especially meaningful to be able to continue and extend the tradition of commitment to excellence in biomedical research that the journal represents.”

The editorial board is responsible for determining the editorial policies of the journal and for selection of papers to be published. The JCI is highly regarded as a leading journal in biomedical research.

“Historically, the JCI has been the journal where physician-scientists published their best work,” said the proposal submitted by Columbia. “We propose to re-instate the status of the JCI as the journal of the future classic knowledge in the post-genome era. The complete sequence of several genomes is now available and it shows that as much as 50 percent of the genes cannot even be annotated, let alone functionally identified. We propose to make the JCI a premier journal of gene discovery. There is much interest in the application of new basic knowledge to the diagnosis and treatment of human disease. We aim at making the JCI a central organ for the publication of translational research that addresses the mechanisms of human disease.”

JCI: ONE OF MANY

Other peer-reviewed journals edited by P&S faculty:

- Antisense and Nucleic Acid Drug Development: Dr. Cy Stein (co-editor), associate professor of clinical medicine (in pharmacology)
- Epilepsia: Dr. Timothy A. Pedley (editor-in-chief), Henry and Lucy Moses Professor and Chairman of Neurology
- Journal of the American Women’s Medical Association: Dr. Wendy Chavkin (editor-in-chief), professor of clinical public health and professor of clinical obstetrics and gynecology
- Journal of Biomedical Informatics: Dr. Edward H. Shortliffe (editor-in-chief), professor and chairman of medical informatics
- Journal of Clinical Endocrinology & Metabolism: Dr. John Bilezikian (editor-in-chief), professor of medicine and pharmacology
- Journal of Gender-Specific Medicine: Dr. Marianne Legato (editor), professor of clinical medicine
- Literature and Medicine: Dr. Rita Charon (co-editor), professor of clinical medicine
- Neurology Today: Dr. Lewis P. Rowland (editor-in-chief), professor and past chairman of neurology
- Pediatric Radiology: Dr. Walter Berdon (managing editor), professor of pediatric radiology
- Structure: Dr. Wayne Hendrickson (co-editor), University Professor of Biochemistry and Molecular Biophysics

Dr. Andrew Marks follows in his father’s footsteps as editor of the Journal of Clinical Investigation. His father, Dr. Paul Marks (inset), was editor the last time the JCI board was at P&S (1966-70).
Nine Medical Students Begin Unique Research Program

Nine students taking a year off from medical school began participation in the Doris Duke Clinical Research Fellowship Program July 1. The program encourages medical students to pursue a career in clinical research by giving them a year off from their formal schooling to experience clinical research first hand.

P&S received $625,000 from the Doris Duke Foundation to support the program over five and a half years. Every year, P&S and six other medical schools will each enroll five medical students as fellows in the program. P&S and clinical departments have committed matching funds to support additional fellows each year. Funds are used to provide stipends to support the medical students during their fellowship year. The program defines clinical research as research in which the fellow or a colleague directly interacts with human subjects, such as research conducted with human subjects or material of human origin.

“This is a wonderful opportunity that will provide medical students with invaluable training and experience in clinical research,” says Dr. Donald Landry, associate professor of medicine and director for Columbia’s program. “The pool of physician-scientists interested in pursuing careers in clinical research has been declining. At the same time, the demands on clinical researchers are increasing.” Dr. Landry manages the program and ensures the fellows are matched with appropriate mentors.

P&S received 27 applications from eligible U.S. medical students, which was among the highest number of applicants at any participating institution. Fellows during 2001-2002 are Stephanie Conte, Alexander Coon, David Horgan, Grace Kim, Alexander Opotowsky, and Brian Su, all Columbia P&S students; Michelle Denburg from Cornell; Elizabeth Gerard from Mount Sinai; and Daniel Sahlein from Albert Einstein. All completed their third year of medical school before becoming fellows.

P&S mentors are Dr. John Bilezikian, professor of medicine and pharmacology (mentor to Mr. Opotowsky); Dr. Jeffrey Bruce, associate professor of neurological surgery (Mr. Horgan); Dr. E. Sander Connolly, associate professor of neurological surgery (Mr. Coon and Ms. Kim); Dr. Eric Heyer, associate professor of clinical anesthesiology and clinical neurology (Mr. Sahlein); Dr. Sharon Oberfield, professor of pediatrics (Ms. Denburg); Dr. Brad Peterson, assistant professor of psychiatry (Ms. Gerard); Dr. Melvin Rosenwasser, Carroll Professor of Orthopedic Surgery (Mr. Su); and Dr. Richard Whelan, associate professor of surgery (Mr. Conte).

Other medical schools participating in the program are at the University of California at San Francisco, Washington University, the University of Iowa, Harvard, the University of North Carolina at Chapel Hill, and the University of Texas Southwestern at Dallas.

Neurological Surgery Has New Name

The Department of Neurological Surgery received a pledge of $10 million from New York-based philanthropist Alberto Vilar to establish a professorship, scholars program for young faculty, and research endowment. Considered the world’s most generous supporter of the classical performing arts, Mr. Vilar joined mezzo-soprano Cecilia Bartoli, a longtime supporter of the Neurological Institute, in a March 2001 ceremony renaming the department as the Alberto W. Vilar Department of Neurological Surgery.

The gift will establish the Alberto W. Vilar Professorship of Neurological Surgery, a $1.5 million endowment to support a leading investigator. The gift also will establish a neurological scholars program that provides an award every four to five years to launch the academic career of a newly certified neurosurgeon. This support will be provided from an endowment of $6 million. In addition, a $2.5 million research endowment will launch the Spinal Cord Regeneration Research Program, beginning a new era of spine research at Columbia.

Mr. Vilar founded Amerindo Investment Advisors Inc. in 1980. Today the company manages approximately $9 billion in the fastest growing sectors of the U.S. economy.

“The Department of Neurological Surgery is delighted to be associated with a man of Mr. Vilar’s reputation for seeking out excellence and fostering success,” says Dr. Robert Solomon, Byron Stookey Professor and Chairman of Neurosurgery. “His financial support will allow this department to achieve new levels of academic achievement in research into areas such as brain tumors, cerebrovascular diseases, epilepsy, and spinal cord injury.”

In becoming the Alberto Vilar Department of Neurological Surgery, the department becomes the first in the history of Columbia to be named for an individual.
Richard Defendini, M.D., special lecturer in pathology, died Oct. 19, 2001. The accomplished neurologist and neuropathologist was a mainstay of the neuropathology division for many years. His original interest was in literature, however, and he pursued studies in English and comparative literature, attended the Sorbonne as a Fulbright scholar, and taught humanities and literature at MIT. After turning to medicine, he completed training in both neurology and neuropathology at Columbia. He joined the faculty in 1970. He took a professional interest in the anatomy and function of the hypothalamic pituitary axis, publishing a number of papers with colleagues on peptide hormones in the central nervous system. He helped pioneer the application of immunohistochemistry to identify neurons by their expression of proteins and peptides.

Marian Fischman, Ph.D., professor of behavioral biology (in psychiatry), died Oct. 23, 2001, of complications secondary to colon cancer. She joined P&S in 1992 and, with her husband, Dr. Herbert Kleber, professor of psychiatry, founded the Division of Substance Abuse in the Department of Psychiatry and the New York State Psychiatric Institute. She also founded and directed the Substance Use Research Center to develop treatments for individuals who use cocaine, heroin, or marijuana. She directed a large research program that sought to develop pharmacologic interventions to treat individuals who abuse a range of drugs. She pioneered a unique research methodology that studied human subjects using drugs in a monitored environment. A Barnard College graduate, she received her Ph.D. from the University of Chicago. She was on the faculty of Johns Hopkins University before joining P&S.
Kermit Pines, M.D.

Kermit Pines, M.D., professor emeritus of clinical medicine, died June 10, 2001. He served P&S and the hospital in a variety of appointments for more than 40 years. After graduating from P&S in 1942, he began an internship on the medical service at Presbyterian Hospital. He joined the Army Medical Corps in the summer of 1943. When he returned to Presbyterian Hospital in 1946, he completed his training under the aegis of Dr. Robert Loeb and joined the faculty in 1947. He did research in calcium metabolism and received the D. Med. Sci. degree from Columbia. He served on numerous committees of the medical center and headed the Metabolism Clinic. He became full professor in 1973 and retired in 1982. See the alumni In Memoriam section (Class of 1942) for more information.

W. Duane Todd, M.D.

W. Duane Todd, M.D., professor emeritus of clinical obstetrics/gynecology, died June 1, 2001, of lung cancer. After graduating from P&S, he completed an internship in surgery and residency in obstetrics and gynecology at Presbyterian Hospital, then joined the P&S faculty and hospital staff in 1958, spending his entire career at Columbia-Presbyterian and affiliated hospitals. He also was in private ob/gyn practice with his uncle, Dr. Virgil Damon, a long-time P&S faculty member. He served a year as president of the New York Obstetrical Society and was vice chairman of the Department of Obstetrics and Gynecology at P&S. Dr. Todd became professor emeritus of clinical obstetrics and gynecology upon his retirement in 1988. He wrote the chapter, “Diseases Common to Women,” in Columbia’s “Complete Home Medical Guide” and co-edited the “Complete Guide to Pregnancy.” He also was involved in creation of the two-volume history of Sloane Hospital. “I believe I can say without reservation that Duane Todd was one of the most beloved human beings I have ever known,” says Dr. Rogerio A. Lobo, chairman of obstetrics and gynecology. “His patients adored him as did all the residents and students he taught.” Dr. Lobo credits him with attracting “droves” of Sloane Hospital alumni to the 100th anniversary event. The Sloane Amphitheater on the 16th floor of P&S has been renamed the W. Duane Todd Amphitheater. See the alumni In Memoriam section (Class of 1952) for more information.

Catherine Tuck, M.D.

Catherine Tuck, M.D., Irving Assistant Professor of Medicine, died May 25, 2001, at age 39. After graduating from the University of Texas Southwestern Medical School, she was an intern and resident in internal medicine at Columbia-Presbyterian, serving as chief medical resident. She completed a research fellowship in endocrinology and preventive medicine then joined the P&S faculty. She was associate director of the Naomi Berrie Diabetes Center, which she helped found in 1997. She was the principal investigator of the Berrie site of the ACCORD trial, an NIH-sponsored multi-center study of prevention of heart disease in Type 2 diabetes.

Other Faculty

David Cowen, M.D., professor emeritus of neuropathology, died March 5, 2001. See the alumni In Memoriam listings in the Fall 2001 issue for more information. • B. Smith Hopkins, M.D., instructor in clinical surgery at St. Luke’s-Roosevelt Hospital Center, died July 19, 2001. See the alumni In Memoriam section (Class of 1975) for more information. • Eliahu Laor, M.D., lecturer in urology, died July 2001. • Peter G. Lincoln, Ph.D., instructor in clinical psychology, died Aug. 6, 2000. • Josef Weissberg, M.D., associate clinical professor of psychiatry, died Aug. 6, 2001.
IN MEMORIAM

ALUMNI

CLASS OF 1930
Retired orthopedic surgeon and former clinical professor at the University of Buffalo, James P. Cole died Feb. 24, 2001. Dr. Cole earned an MSD degree from P&S in 1936. He saw active duty with the U.S. Navy during World War II, then returned to Buffalo to pursue private practice. He is survived by his wife, Margaret, a daughter, and a son, James’65.

CLASS OF 1932
Arthur H. Milbert, a retired neurologist from North Bergen, N.J., died Sept. 29, 2000. A loyal alumnus and founding member of the Samuel Bard Associates, an association of major benefactors to P&S, Dr. Milbert endowed by bequest a scholarship fund in his name. He is survived by his nephew, William Mauskopf.

CLASS OF 1936
Ralph E. Moloshok, a retired pediatric endocrinologist, died Aug. 3, 2001. Former clinical professor of pediatrics at Mount Sinai, Dr. Moloshok was honored in 1983 by the dedication of a lecture room there in his name. An esteemed teacher and practitioner, he also earned Mount Sinai’s Jacobi Medal and Alexander Richman Award for Humanitarianism in Medicine. He served in the Mount Sinai Hospital Unit in North Africa during World War II. He returned to Mount Sinai Hospital and spent more than three decades as director of the newborn nursery and head of the pediatric endocrinology division. He leaves behind his wife, Margaret, a son, a daughter, and four grandchildren. • Robert M. Sonneborn, a retired internist and loyal alumnus, died Nov. 3, 2001. Following his training, Dr. Sonneborn served in the U.S. Navy, surviving the attack at Pearl Harbor. He was cited for meritorious duty and promoted to the rank of commander. But it was back in his civilian life, following fruitful years as an internist in private practice specializing in cardiopulmonary care, in Wheeling, W.Va., that Dr. Sonneborn faced and surmounted the greatest personal challenge of his life. In 1963, at age 51, he suffered a severe heart attack. Diagnosed with an arteriovenous fistula, he was obliged to leave his practice. Still, with the support of his wife, Hortense, and his family, his commitment to medicine did not wane. Having written for the West Virginia Medical Association and contributed to a textbook on clinical radiology, in 1968 he turned his powers of observation inward and wrote, on his wife’s urging, “If Your Husband Has Coronary Heart Disease,” a book based on his own experience and full of pragmatic and philosophical advice. A fellow and former governor for West Virginia of the American College of Cardiology, he also served as a past president of the Ohio County Division of the Ohio/West Virginia affiliate of the American Heart Association. In 1992, thanks to his exceptional generosity and that of his family, Columbia established the Robert M. Sonneborn’36 Professorship, linking in perpetuity his commitment to medicine and the medical school he loved. Dr. Sonneborn is survived by his wife, Hortense, two daughters, Anne and Barbara, and two grandchildren.

CLASS OF 1937
Olga Schweizer died Jan. 3, 2001. A retired anesthesiologist and former member of the faculty at Cornell and the author or co-author of more than 75 scientific papers in her field, Dr. Schweizer had been associated with Memorial Sloan-Kettering Cancer Center, where she served as chief of the anesthesia service. There are no known survivors.

CLASS OF 1940
Word has been received of the death of Freeman F. Brown, precise date unknown. A retired anesthesiologist, Dr. Brown had been affiliated with Hartford Hospital in Hartford, Conn., and Charlotte Hungerford Hospital in Torrington, Conn. His wife, Lucy, preceded him in death. He is survived by two daughters, a son, and five grandchildren.

CLASS OF 1941
Gerald Branower died May 1, 2001. Ophthalmologist by vocation, archeologist by avocation, Dr. Branower pursued a private practice for many years in Great Neck, N.Y. He served as a cap-
of Nautical Archeology. Survivors include his wife, Mimi, and three sons.  
• Robert W. Monroe died July 25, 2001, at age 84. He served with the U.S. Army Medical Corps in the Southwest Pacific during World War II. Returning stateside, he trained in pediatrics at the University of Pennsylvania and settled into a private pediatric practice in Greenville, Pa., where he also served on the staff of Greenville Hospital. He is survived by his wife, Victoria, two daughters, and two grandchildren.

Class of 1942  
Benjamin C. Berliner, whose practice of pediatrics spanned more than five decades, died May 23, 2001. A former professor of pediatrics at the University of Connecticut, Dr. Berliner also served as editor of the “Self Evaluation Examination” of the American Academy of Pediatrics and a frequent reviewer for the journal Pediatrics. He served as a Navy Commander-Director in pediatrics at the Portsmouth Naval Hospital from 1954-56. Among his passions were ornithology, horticulture, and archeology. He is survived by his wife, Esther, a daughter, three sons, six grandchildren, and one great-grandchild.  
• Frank J. Brown died June 11, 2001, at age 84. Dr. Brown served as a captain in the U.S. Army Medical Corps in the Southeast Pacific during World War II, earning a Bronze Star for valor. Starting out as a general practitioner in Point Pleasant Beach, N.J., where he delivered more than 1,000 babies, he subsequently switched gears and specialized in cardiology. Dr. Brown joined the staff of Point Pleasant Hospital, where he started the first coronary care unit and served as chief of staff, chief of medicine, and chief of cardiology. He practiced medicine with a strong humanistic bent and continued to make house calls until his retirement in 1987. His first wife, Virginia, and his second wife, Mary, preceded him in death. He is survived by three daughters, four sons, 15 grandchildren, and 10 great-grandchildren.  
• Kermit L. Pines, professor emeritus of clinical medicine at P&S, died June 10, 2001. A retired internist who combined teaching and private practice, he maintained lasting friendships with many of his patients. He pursued research in enzyme chemistry, hypertension, and diabetes. At P&S, he served as longtime director of the Diabetes Clinic. Dr. Pines had been a past chairman of the Clinical Society of the New York Diabetes Association and a member of the board of directors of the American Bureau for Medical Advancement in China. A loyal and generous P&S alumnus, Dr. Pines supported multiple causes, including research in endocrinology and surgery as well as student scholarships. Serving with the 11th Airborne Division Army Medical Corps in the Southwest Pacific during World War II, for which he earned a Bronze Star, he accompanied General Douglas MacArthur’s occupation forces in Japan following their capitulation. Survivors include his wife, Toussia, a daughter, and two sons, one of whom, Jeffrey ’73, is on the psychiatry faculty of P&S.  
• Retired surgeon David A.W. Wilson died May 29, 2001. He served as a captain in the U.S. Army during World War II, participating in, among other campaigns, the Invasion of Normandy and the Battle of the Bulge. Dr. Wilson served for many years as attending and director of surgery at United Hospital in Port Chester, N.Y., where he had also been a member of the board of trustees. Dr. Wilson volunteered as a surgeon for the Rye, N.Y., fire and police departments. He is survived by his wife, Marjorie, four children, three stepchildren, 16 grandchildren, and three great-grandchildren.

Class of 1944  
Brewster S. Miller died of cancer Aug. 6, 2001, at age 82. Having trained in OB/GYN, he was a former member of the clinical faculty at Robert Wood Johnson Medical School and director of medical education at Somerset Medical Center in Somerville, N.J. He also served as medical director of the Eastern Star Home for the Aged. Dr. Miller served as a medical officer with the U.S. Navy during World War II. Following the war, he officiated from 1948 to 1958 as director of professional education for the American Cancer Society and from 1958 to 1969 as medical director of the United Cerebral Palsy Association. His record of public service included a tenure as secretary of the World Commission for Cerebral Palsy and as delegate to the National Health Council. His wife, Regina, preceded him in death. He is survived by two sets of twins—two sons and two daughters—and three grandsons.

Class of 1945  
Charles C. Hogan, a retired psychiatrist who specialized in the treatment of psychosomatic disorders, died June 7, 2001. Former assistant clinical professor at the Albert Einstein College of Medicine, Dr. Hogan also lectured at P&S, where he had pursued postgraduate studies toward an MSD degree in 1952. He had been affiliated with Bronx Municipal Hospital. Survivors include his wife, Nina, a daughter, and two sons.  
• Arthur T. Keefe Jr. died of a heart attack June 15, 2001. A retired surgeon in general surgical practice and former chief of surgery at Kent Queen Anne’s Hospital in Chestertown, Md., Dr. Keefe had been active as a volunteer instruc-
in local adult literacy and Share programs. He served in the U.S. Army Medical Corps immediately after World War II and was a past president of the Maryland Medical and Chirurgical Society. His first wife, Lorraine, preceded him in death. He is survived by his second wife, Patricia, two daughters, two sons, three stepchildren, six grandchildren, and six stepgrandchildren.

Class of 1948
Ruth M. Murphy of Lincoln, Mass., a psychiatrist in solo private practice, died July 20, 2001. She was preceded in death by her husband, Dr. William F. Murphy, but is survived by a daughter, a son, and two grandchildren.

Class of 1950
Audrey K. Brown, a loyal alumna and dear friend of P&S, died Sept. 14, 2001. A specialist in pediatric hematology, Dr. Brown was the first recipient of the new Landmark Award of the Section on Perinatal Pediatrics of the American Academy of Pediatrics. Professor emeritus and former vice chairwoman of pediatrics at the State University of New York at Buffalo, where she was chief of the pediatric hematology-oncology division, she also served as an adjunct member of the teaching staff at Northshore University Hospital. The author or co-author of more than 100 peer-reviewed papers, Dr. Brown had chaired a special study of the impact of early neonatal discharge on outcome and readmission of neonates, sponsored by the New York March of Dimes. Among her other honors, Dr. Brown received a Commemorative Medallion on the 200th anniversary of P&S and an award for a distinguished career in clinical investigation from the Irving Center for Clinical Research. She is survived by her husband, Dr. Alfred J. Bollet, a son, and two granddaughters.

Class of 1952
W Duane Todd, professor emeritus of clinical OB/GYN at P&S, died June 1, 2001. He had been a past president of the New York Obstetrical Society. He is survived by his wife, Dorothy, a daughter, a son, and two grandchildren.

Class of 1954
Hope C. Perry died Aug. 2, 2001, after a battle with cancer. A pediatrician who pioneered women’s health care issues at Cornell University Health Center, where she was a member of the staff, she received the center’s prestigious Cook Award in 1994. Among her public service roles, she was a past president of the Tompkins County Medical Society and a trustee of the Village of Cayuga Heights in upstate New York. Survivors include her husband, Dr. Roger H. Perry, a daughter, a son, and five grandchildren.

Class of 1957
Stanley F. Piotrowski, a plastic and reconstructive surgeon from Chatham, N.Y., died April 23, 2001. Dr. Piotrowski served with the U.S. Navy from 1961 to 1963. He is survived by his wife, Shirley, five children, and 14 grandchildren.

Class of 1974
Peter R. Levine died Nov. 4, 1999, from metastatic cancer. Dr. Levine, a former major in the U.S. Army at Walter Reed Hospital, was a practicing rheumatologist affiliated with Arthritis Associates of Northern Virginia in Falls Church. He is survived by his wife, Sonya.

Class of 1975
B. Smith “Smitty” Hopkins died of lymphoma July 19, 2001. Dr. Hopkins, who also had an MPH degree from Columbia, served as associate medical director of quality assurance at St. Luke’s-Roosevelt Hospital Center. Despite his worsening illness, he remained active in a cause dear to his heart—the improvement of the quality of patient care at Roosevelt Hospital. Among his survivors are his wife, Alice Prince’75, professor of pediatrics at P&S, and two sons.

Class of 1977
Jeffrey Paul Davis died Dec. 30, 1999, of a heart attack brought on by longstanding diabetes. An ophthalmologist in private practice, his multiple talents extended to poetry and photography. He is survived by his wife, Carolyn.

Class of 1994
Lisa Chertkov died May 23, 2001, at age 38. Having completed a dual residency in internal medicine and psychiatry at CPMC, she went on to pursue a fellowship in psychiatry at Memorial Sloan-Kettering Cancer Center. Dr. Chertkov received the Ames Award and the Hope Prize. She is survived by her parents, extended family, and many friends.
George D. Yancopoulos'86 Ph.D./'87 M.D., the physician-scientist whose lab first shed light on one of biomedical sciences' holy grails, the nerve-muscle interface, among other fundamental discoveries, defies conventional thinking.

Age 42, the author of more than 200 peer-reviewed papers in multiple fields, Dr. Yancopoulos keeps leapfrogging freely between disciplines and domains. Listed in a 1997 survey of the Institute for Scientific Information as one of the 11 most highly cited scientists in the world, he is a molecular biologist with a structural biological background and an immunological focus, a basic scientist actively involved in clinical applications.

Further befuddling all expectations, Dr. Yancopoulos comfortably straddles the divide between academia and industry on an intellectual footbridge of his own devising. He is a bench worker in a business suit—actually, he prefers jeans—a scientific thinker devoted to the development and production of therapeutic agents.

President of Regeneron Research Laboratories and chief scientific officer and a founding scientist of Regeneron Pharmaceuticals, a cutting edge biotechnology firm committed to science-based discovery, Dr. Yancopoulos simultaneously maintains strong academic ties as adjunct professor of microbiology at both P&S and Cornell.

Much sought after as a lecturer and scientific collaborator, he organized and co-chaired a P&S biomedical symposium on angiogenesis at Columbia's Arden House in Harriman, N.Y., in July 2001.

Perhaps most surprising of all, leaders of both academia and industry concur in their estimation of the man and his qualities. Saul J. Silverstein, professor and chairman of microbiology at P&S, who first knew Dr. Yancopoulos as a Ph.D. candidate and postdoc and subsequently offered him a coveted...
junior faculty position, only to have his offer respectfully declined, waves off with a smile any suggestion of his erstwhile protege’s (and continuing collaborator’s) defection from the ranks of academia: “I don’t think George has ever actually left anything. He keeps 10 feet in this university alone, and 10 hands in teaching institutions across the country.” Dr. Silverstein, who nominated Dr. Yancopoulos for Columbia University’s Medal of Excellence, lauds the latter’s “uncommon ability to conceptualize scientific problems and use information from many disciplines to discover how molecules work.” In his nomination letter, Dr. Silverstein characterized Dr. Yancopoulos’ research as “daring from the procedural to the profound.”

P. Roy Vagelos’54, the retired chairman and CEO of the pharmaceutical giant, Merck & Co., another academic scientist who has crisscrossed the industrial divide and a man not ordinarily given to superlatives, considers Dr. Yancopoulos “one of the smartest and most gifted research people in all of the biosciences today and perhaps the strongest scientist in the combined biotech-pharmaceutical industry.” High praise indeed from the trailblazer of science-based discovery whose peerless reputation as the nation’s No. 1 CEO landed him on the cover of Fortune magazine. Dr. Vagelos was, in fact, so impressed with Dr. Yancopoulos that, upon retiring from Merck, he joined Regeneron as chairman of the board (a notable body that includes, among other scientific heavy hitters, Nobel laureates Dr. Michael S. Brown, Dr. Alfred G. Gilman, and Dr. Joseph Goldstein). Asked what he considered so remarkable about the company, Dr. Vagelos replied without hesitation: “Mostly, George!”

A Passion for Science

At first sight, the non-descript gray metal shelf covered with red labels resembles a pharmacy cabinet stocked with the ingredients of prescriptions waiting to be filled. A closer look reveals a wall full of neatly ordered published papers. The white board at his back is messy with equations and calculations, an arsenal of felt tips ready for take-off. Yet lest you be taken in by the apparent nonchalance of his open collar and blue jeans, the laser-like intensity of his dark gaze will instantly set you straight. Dr. Yancopoulos means business and that business is science.

Of medium height, with the open face and the lean and sinewy build of a former college athlete (he rowed on the crew and played baseball for Columbia College), George Yancopoulos lives and breathes biology. Notwithstanding what he perceives as a certain degree of hype spun off by the genome project, Dr. Yancopoulos insists that “sophisticated biology still requires an all-encompassing approach that is almost as rare and challenging today as it was decades ago.” Figuratively (and, in a sense, literally) wed to his work—his wife and the mother of his three children was the company’s first receptionist—his biography reveals a single-minded commitment, with time off for family.

“Day to day science, I have to say, and even what happens over a period of years is a little bit boring,” he says. “Actually, I’m a boring guy. I have my family and Regeneron!”

Boring indeed. Quiet waters run deep. George Yancopoulos is a man on a quest. His hydra-headed, fire-breathing dragon is human immunologic disorders. His weapon of choice is the body’s own naturally occurring proteins replicated, redirected, blocked, or enhanced by his team at Regeneron to repair processes gone awry.
Mentors, Mythic and Mortal

The American-born son of Greek immigrants, he was nurtured on tales of the ancient Greek sages, Archimedes, Euclid, Plato, and on the exploits of his own paternal grandfather and namesake, George Damis Yancopoulos, an electrical engineer who built Greece’s first electrical power plants. “So I was primed from the start,” he says, only half joking, “like I was some sort of biological experiment. All these stories made me think, if my ancestors and my own grandfather, whose name I bear, could do great things, then maybe I could too.”

Graduating class valedictorian in 1976 at New York’s prestigious Bronx High School of Science and winging it again in 1980 at Columbia College, where he earned a B.A. degree in biochemistry summa cum laude, he was named Outstanding Chemistry Student and Dwight D. Eisenhower Top Scholar-Athlete. He continued to shine at P&S, garnering the Alfred Steiner Award for Medical Student Research in 1984 and the Louis Gibofsky Award for Research in Immunology in 1987. Earning his Ph.D. in biochemistry and molecular biophysics in 1986, he was selected, based on an outstanding thesis, to speak at commencement and subsequently won the prestigious Lucille P. Markey Award in Biomedical Sciences.

And just as the ancient Greek sages had fed the dreams of his childhood, contemporary Columbia scientists inspired him, by their example, to bring those dreams to fruition. He considers the time he spent at Columbia, as undergraduate, medical student, Ph.D. candidate, and postdoc, as “the most formative period in my life.”

“I do think,” Dr. Yancopoulos says, “that young people need inspiration and a lot of role models who excite them and make them say, ‘Hey, that’s what I want to be doing!’” The P&S faculty offered a rich panoply of such mentors. “When you have truly top-tier people, like Elvin Kabat, Arg Efstratiadis, Fred Alt, Richard Axel, Eric Kandel, to name only a few, people who lecture you and with whom you interact socially, talk science and joke around, people who themselves have done incredible things, it makes you believe that you can be like them.”

As an undergraduate at Columbia College, he focused on X-ray crystallography and the structure of proteins and, more specifically, the mechanism of the changes hemoglobin molecules undergo in the transport of oxygen. At P&S, under the influence of Arg Efstratiadis, Dr. Yancopoulos shifted his focus to the genetic encoding that predisposed the action of protein molecules. Entranced by the new study of single nucleotide polymorphisms (or SNPs), Dr. Yancopoulos zeroed in on the microbiological phenomena that “coded for and led to production of these tiny little protein machines.”

Under the influence of another P&S mentor, Fred Alt, Dr. Yancopoulos applied this newfound focus on DNA technology to the field of immunology. A precocious student, he got involved in his teacher’s pathbreaking study of just how the body mounts an immune response to foreign microbes and co-authored the published results.

A Pivot, Not a Departure, from Academia

Twenty years and many publications later, Dr. Yancopoulos and his scientific team at Regeneron Pharmaceuticals, the firm he helped found (with then president and CEO Leonard Schleifer) in 1989, are still engaged in studying disease situa-
tions in which the body needs to fight off or make more of various endogenous proteins.

Despite the intense lobbying not to “jump ship” by friends and well-wishers in academia, including Nobel laureate David Baltimore, Dr. Yancopoulos felt it was time for an intellectual adventure. Having operated primarily in a university setting for all of his adult life, he felt “if I was going to do something totally risky, totally zany, this was the time in my life to do it.” Intrigued (and inspired) by a call from Dr. Schleifer, Dr. Yancopoulos took the leap of his life, climbing aboard as senior staff scientist of the fledgling firm in 1989. In 1992 he was promoted to vice president of discovery, in 1997 to chief scientific officer, and in 2001 to president of Regeneron Research Laboratories and a member of the board of directors. Engrossed in his research and the nuts and bolts of helping to lead a company, he has never had time to look back.

He and his scientific team at Regeneron have published fundamental findings in diverse fields, including, early on, the discovery and characterization of novel neurotrophic factors in the regulation of neuronal survival and function. Among the subsequent outcroppings of his multiple research interests were the initial descriptions of paradigm multicomponent cytokine receptor systems and identification of the in vivo trigger in the formation of the neuromuscular interface between nerve and muscle. More recently, he and his team have successfully identified a new set of angiogenic factors involved in mediating normal and pathological blood vessel growth. They have also hit upon fundamental factors in the mechanism of muscle growth and degeneration. And they hit virtual pay dirt with the realization that a neurotrophic factor, which they had previously studied in another context, had the potential to address the problem of obesity.

And while all this research regularly made it into such leading medical and scientific journals as Science, Cell, and Nature, it also led to human clinical studies and the development of promising products on the drug pipeline.

Among the therapeutic agents closest to making a splash is Axokine, a drug to regulate obesity, now in the final stages of testing in humans, which appears to outperform by far any other agent on the market. Other agents developed by Dr. Yancopoulos and his team at Regeneron are also making news. Cytokine antagonists or Traps, now in human trials, hold great promise for the regulation of such immunologic disorders as asthma and rheumatoid arthritis. The team also has identified promising angiogenic regulators in cancer and vascular disease.

The Vagelos Factor

Regeneron has recruited other P&S alumni, but the company’s greatest coup may have been landing pharmaceutical legend P. Roy Vagelos’54.

As scientifically successful as Regeneron was, says Dr. Yancopoulos, “it took Roy Vagelos to take us to the next step and say, ‘Hey, great technologies, but while you started out trying to address neurodegenerative diseases, none of us will be around to see the fruits of your labor.’” Dr. Vagelos persuaded Dr. Yancopoulos and company president Dr. Schleifer to apply the same revolutionary scientific technologies they had developed to more tractable disease situations. “Take those same microgenetic approaches,” Dr. Vagelos advised, “and apply them to obesity, to diabetes, to rheumatoid arthritis, to allergy and asthma.” Says Dr. Yancopoulos: “That’s just what we did. We’re really on the verge of making a difference, coming up with whole new ways of attacking old diseases.”

Dr. Yancopoulos recalls the fortuitous irony of the fact that when, as a young man, he first expressed a serious interest in science as a career, his encouraging, albeit cautious, Greek parents pointed to Dr. Vagelos. Having followed with interest the astronomical rise of the senior biomedical scientist with Hellenic roots, they said, “Son, if you’re going to become a scientist, at least be one like Roy Vagelos.” “Funny,” reflects Dr. Yancopoulos, “that after all these years, our paths converged.”

Yankee Center Field or Bust

Just like his old hero and role model, Roy Vagelos, who did it all at Merck, George Yancopoulos enjoys the manifold and varied responsibilities of his corporate role. “I can’t imagine a more challenging and fun job. One minute I’m at a basic science meeting trying to understand a biological mechanism, the next minute I’m talking with our clinical people about our upcoming human trials, and the next minute I’m engaged in a business discussion. I get to do it all!”

Are there any regrets? “The only other thing I could imagine wanting to do, maybe, would be to play center field for the New York Yankees. But only,” he stresses, “if I were an all-star caliber player. Maybe that would do it.”

For the moment, at least, the frustrated athlete will have to stick to coaching his daughter’s soccer team and the more rarefied pursuit of pitching proteins.
On any given day, Miami cardiologist Richard A. Elias ‘55 may be shuttling between the ER at Miami Heart Institute and Washington, Houston, Los Angeles, London, Tokyo, or Bombay, tending to and mending the hearts of the movers and shakers of the world.

His patient roster, which includes multinational board chairmen, CEOs, and international VIPs of every ilk, reads like a Who’s Who of just about anything anywhere. “We take care of busy people who come through Miami for a breather,” he explains, “and often, we end up directing their care wherever they happen to be.” Inevitably, grateful patients will ask him, “Dick, what can I do for you?” That’s when the two institutions closest to his heart come to mind: P&S, where he learned the art of patient care, and the Miami Heart Institute, which he helped build into one of the nation’s leading cardiology care facilities.

Dr. Elias sees no conflict of loyalties. His patients, many of whom maintain a primary residence in New York, want the very best care wherever they are. Chief of medical services and chairman of the Research Institute at the Miami Heart Institute and clinical professor of medicine at the University of Miami, Dr. Elias was named to the joint board of directors of the newly merged entity of Miami Heart and Miami’s Mount Sinai Hospital. Among his multiple medical leadership roles, he also served as past president of the American Heart Association of Miami and the American College of Chest Physicians for Florida.

At Columbia, Dr. Elias has long been a pivotal member of the Columbia-Presbyterian Health Sciences Advisory Council and co-chair of the council’s Clinical Research Committee. In that capacity and as one of the most dynamic regional directors of the P&S Alumni Association, Dr. Elias has moved mountains on behalf of his medical alma mater. “Ever grateful for the rigorous academic grounding I received at Columbia P&S, I resolved early on to pay back when I could, not only with what little money I myself could afford, but also by giving of myself and encouraging others to give. Anyone can give money or lip service, but when you give of yourself, that’s the greatest gift.”

His efforts on behalf of Columbia resulted in an anonymous gift of $1 million to rebuild the P&S Alumni Auditorium and Bard Hall Players Theater in his honor; support from the Hugoton Foundation to fund educational programs at the Columbia School of Nursing; and the donation of Harvey, a cardiology patient simulator at P&S. He also has helped to direct the awarding of substantial grants from the Johnson & Johnson Foundation and the Knight Foundation, among other philanthropic entities.

To Dr. Elias, his philanthropic credo is a vital addendum to the Hippocratic Oath: “In order for medical education to survive, particularly in the current era of managed care, it’s imperative that doctors become pro-active in supporting and, as importantly, getting their patients to support the institutions that really make a difference. If we physicians don’t get involved, the bureaucrats will. Ultimately, American medical education and the American medical system we all value so much is only going to be as good as we make it.”

A veteran of the medical corps of the Navy reserves he pursued important research on air embolism and coronary circulation in submarine escape at the U.S. Naval Laboratory in New London, Conn. Honored in 1969 by the American Heart Association “for meritorious service in the fight against heart disease,” he has been saluted by the Miami Heart Institute and the P&S Alumni Association, which in 1987 awarded him its Medal for Meritorious Service. Still, he insists, he derives the greatest pride from “the thrill of pitching in for a cause that counts.”
ALUMNI ASSOCIATION ACTIVITIES

RECEPTION FOR NEW STUDENTS, HOUSE STAFF

First-year students, new house staff, and their families mingled with alumni and faculty at a Faculty Club gathering in September. Alumni Association president Martha G. Welch’71 officially welcomed the newcomers to the P&S family, adding that “it is the P&S Alumni Association that assures your lifelong tie to this great medical school. The people you meet at the alumni gatherings may just make a difference and change your life.”

Among the alumni on hand to help influence lives was Shearwood McClelland’74. In addition to being associate professor of clinical orthopedic surgery at P&S and director of orthopedic surgery at Harlem Hospital, Dr. McClelland, husband of Yvonne Thornton’73 and father of Shearwood “Woody” McClelland Jr.’04, is the living embodiment of P&S family at its best. Dr. McClelland delivered a rousing and inspirational talk at this year’s White Coat Ceremony.

Dean of Students Dr. Linda Lewis and Dean of Admissions Andrew G. Frantz’55 were also on hand. A bit bleary from overexposure to formaldehyde, incoming student Brian B. Kim’05 was most struck, so far, by the experience of gross anatomy. “It’s a little overwhelming,” he conceded. “You lose your appetite. Your table mates help you get over the shock.”

ALUMNI WELCOME WAGON

The Alumni Association made its future members in the Class of 2005 feel at home in August, offering mugs, pens, and other useful goodies from a welcome wagon as part of the Bard Hall orientation program for new students.

REGIONAL PROGRAM

The John Jones Surgical Society and the P&S Alumni Association co-hosted a reception at the Hilton Riverside Hotel in New Orleans in October in conjunction with the annual convention of the American College of Surgeons. Eric Rose’75, chairman of surgery, welcomed the group and gave an update on department and hospital activities. Kenneth Forde’59 spoke on behalf of the medical school and shared some of the new dean’s vision and plans.

RUGBY GLORY AGAIN

As usual, the P&S rugby team trounced the opposition at the John Wood’76 Memorial Rugby Tournament at Van Cortlandt Park in October.
Alumni Council

At the June 2001 council dinner at the Faculty Club, as per tradition, outgoing Alumni Association president David T.W. Chiu’73 passed the gavel of office to incoming president Martha G. Welch’71, an active alumna and former chairwoman of a committee set up to seek and groom future alumni leaders. “My tenure of office has been one of the great experiences of my life,” Dr. Chiu said. “I am so happy and so relieved to turn things over to someone as qualified as Martha Welch.” Dr. Welch, in turn, saluted her predecessor: “Usually, people this accomplished and this busy don’t give their time to their alumni association. David is a notable exception.”

Guest speaker Ezra Susser’82, director of the New York State Psychiatric Institute’s Department of Epidemiology of Brain Disorders and chairman of the Department of Epidemiology in the Mailman School of Public Health at Columbia, turned everyone’s attention to the challenge of combating the AIDS pandemic. “We live in the most interesting times ever in epidemiology, for the worst of reasons,” he said. “AIDS is unquestionably the greatest pandemic in the history of the world. There has never before been a public health threat of this magnitude.” Speaking of Columbia’s collaboration with universities in South Africa, of which Dr. Susser is a native, he described in no uncertain terms the catastrophic effect of AIDS on African society. “The entire demographic structure of African society is changing because of AIDS,” he said, citing the staggering numbers—millions of orphans and old people with no nuclear families to care for them. AIDS, he pointed out, attacks mostly people in the prime of life. “AIDS is not only a problem of lifestyle, it is a problem of leadership and social responsibility,” he said. Insisting that the only adequate response must be at all levels—ecological, microbiological, and behavioral, among others—he called for the mobilization of “the societies of the region and of the world to take on AIDS as one would a war.”

At the Sept. 19, 2001, council dinner, held a little more than a week after the terrorist attack on the World Trade Center, guest speaker Allan Rosenfield’58, professor of obstetrics & gynecology and Delamar Professor and Dean of the Mailman School of Public Health, reported fresh from his leadership role in the public health response to the disaster.

“This has been a horrific week, unprecedented in our lifetime,” he said. “Visions of what happened are seared in our minds forever.” From a public health standpoint, key issues included the appraisal of any biological component to the attack and its aftermath, including the monitoring of air quality, potential respiratory and other health problems faced by rescue workers, and the “immense mental health issues that remain in the wake of the shock. As a city, as a society, we’ve never coped with a concept of so many funerals in a short space of time.” As to the lingering threat, he warned that “while it wasn’t now a bioterrorist attack, we do know that such people are capable of launching a biological attack.”

Dr. Rosenfield had been planning to deliver a formal presentation on the state of the School of Public Health, so he balanced his sobering account from ground zero with a rosy bill of health for the school. “We were officially declared a separate faculty just last year,” he reported, “and now we are a school with a new home.” The faculty has moved into the refurbished old digs of the New York State Psychiatric Institute. Among other programs, he said, the school was engaged in a major study of bioterrorism and work on public health preparedness for the possibility of bioterrorist attack. Other ongoing efforts include programs in HIV/AIDS, forced migration and refugees, reproductive health, and ethics and human rights aspects of public health and medicine. Student applications, he reported, are on the rise and the school’s endowment is now at a record high of $55 million.

“With six separate departments, we have become a large school on a great health sciences campus, as opposed to a small department.” He closed by emphasizing his overarching concern as a doctor and an officer of public health: “We as physicians should not and cannot accept the fact that 45 million uninsured Americans do not have access to medical care, except for emergency rooms.”
CLASS NEWS

By Marianne Wolff ’52

1937
Ephraim P. Engleman received the Medal of Honor from the University of California at San Francisco, the most prestigious award given by the university to individuals who have made outstanding personal contributions in areas associated with the University’s health science mission and whose efforts mirror the goals and values of UCSF.

1939
Zachary B. Friedenberg, professor of orthopedic surgery at the University of Pennsylvania, is still practicing in his field but no longer performs surgery. He teaches students and residents, conducts research, and has published books on the history of medicine, including “The Doctor in Colonial America,” “Medicine Under Sail,” and “Biography of a World War II Hospital in the North African and European Theaters.”

1945
Albert Stunkard is studying a “new” eating disorder, the night eating syndrome, with the aid of a three-year grant from the NIH. The syndrome was first described 50 years ago by the same Albert Stunkard. The purpose of the current study is to further elucidate the entity.

1946
Although officially retired, John K. Spitznagel is active in the Good Samaritan Health & Wellness Center, a not-for-profit group of retired physicians and other health professionals. Located in the North Georgia mountains, Good Samaritan has opened a free ambulatory clinic, caring for the approximately 10,000 medically underserved people in Pickens County.

1948
Mel Grumbach was elected honorary president of the International Society of Endocrinology for 2000-2004. The University of Paris awarded him a Docteur Honoris Causa in the great amphitheater of the Sorbonne in December 2000.

1950
The American Academy of Pediatrics Section on Perinatal Pediatrics has established the Landmark Award to recognize individuals who have made outstanding contributions to the field. The late Audrey K. Brown (see In Memoriam) was the first awardee for her internationally recognized work on bilirubin and kernicterus.

1952
Leslie DeGroot is the editor of the three-volume set, “Endocrinology.” His current research interests are centered in studies of the genes that induce thyroid cancer and of the use of viral vectors for gene therapy in existing thyroid cancer. Joe Shipp’s current title is that of Eminent Scientist at Sansum Medical Research Institute in Santa Barbara, Calif. Joe is professor of medicine at UCSF. His research is directed toward finding a cure for Type I diabetes, in collaboration with the University of California at Santa Barbara.

1955
The American Lung Association of Virginia, under its president, Dudley F. Rochester, promotes educational programs in lung health with special emphasis on asthma, clean air, and smoking-related lung disease. Dudley’s avocation is photography; he is a member of the Charlottesville Camera Club and attends photography workshops.

1953
Now retired from the practice of child psychiatry, Lucile M. Ware still lectures and publishes articles on subjects related to the psychologic aspects of teen pregnancy. Lucy and her husband spend summers in France, where they are restoring a 300-year-old farmhouse in Picardy.

1957
Among Henry Buchwald’s honors are past president of the Central Surgical Association and of the American Society for Bariatric Surgery; governor to the American College of Surgeons for the Central Surgical Association; and national representative to the International Federation for Society for Obesity. Following his retirement from the Howard Hughes Medical Institute (as senior scientific officer and director of the NIH Research Scholars Program), Donald H. Harter spent a year on a research project at the Division of Virology, Department of Pathology, Cambridge University in England. The George Washington University School of Medicine and Health Sciences named him professor emeritus of clinical neurology in May 2001. Don continues some clinical work and teaching at the GWU Medical Center in Washington, D.C.
1958
While no longer practicing orthopedics in the United States, William J. Kane spent six weeks in Kenya in 1999 and visited India and Japan in 2000, teaching and learning advances in orthopedic surgery. Bill’s home base is in Northern Nevada, an area ideally suited for his avocations: golf, sailing, and skiing. Stephen E. Malawista, professor of medicine at Yale, has been named a Guggenheim Fellow for 2001, on the basis of “unusually impressive achievement in the past and exceptional promise for future accomplishment.” Stephen, a co-discoverer of Lyme disease, will study mobile function of human blood cells in the context of the inflammatory response at the Centre d’Ecologie Cellulaire, Hopital de la Salpetriere in Paris.

1959
Frank Davidoff served as editor of the Annals of Internal Medicine for six and a half years. The Annals is the largest specialty journal in the world and the fourth most frequently cited journal. Kenneth H. Spitzer practices ophthalmology and teaches at SUNY Upstate, where he is chairman of the Admissions Committee. He spends his “free” time volunteering overseas in such countries as Zimbabwe and India.

1962
A great deal of publicity accompanied the feat of a blind climber, Erik Weihenmeyer, who reached the summit of Mount Everest in May 2001. Virtually unpublicized was the fact that one of his sighted companions, Sherman Bull, was, at age 64, the oldest man to reach the peak of the world’s tallest mountain. Sherman had four previous attempts at scaling Mount Everest, the most recent in 1998. In the course of that attempt he sustained serious injuries in a fall. Brad Bull, his son, also reached the summit; it was Brad’s second successful ascent. Sherm is a surgeon at Stamford Hospital in Stamford, Conn.

1964
Gerald Freedman is a full-time faculty member at Yale’s Department of Radiology. In 2000 he completed an MPH at Yale.

1965
Dorothy S. Lane is professor and vice-chairwoman of preventive medicine at SUNY at Stony Brook, where she also serves as associate dean for CME. She is a member of the Accreditation Council of Continuing Medical Education and president of the American College of Preventive Medicine. In addition to her M.D. she also holds an MPH from Columbia.

1969
John P. Bilezikian was designated a master of the American College of Endocrinology; this honor is bestowed on individuals who have...
“demonstrated an exceptional level of leadership and made significant contributions to the field of endocrinology.” John is editor-in-chief of the Journal of Clinical Endocrinology and Metabolism. The second edition of the textbook, “The Parathyroids, Basic and Clinical Concepts,” of which he is co-editor, was published in 2001.

1970
David C. Charlesworth, a past president of the New Hampshire Medical Society, was voted “Top Doc” by his peers in the Business New Hampshire Magazine for 2001. • Robert M. Schmidt, who holds Ph.D. and MPH degrees in addition to his M.D., is a fellow of multiple professional societies, including the Royal Society of Medicine, London; American College of Physicians; American College of Preventive Medicine; American Society of Clinical Pathology; American Geriatrics Society; and Gerontological Society of America. In addition, he is a reviewer for multiple scientific journals. A Knight of Malta, Bob is listed in “Who's Who in the World.” He serves as a regional representative for P&S in California and Hawaii.

1976
Internist Jose Marcal, affiliated with Winchester Hospital, was listed as one of Boston’s “Top Doctors for Women” in the February 2001 issue of Boston Magazine.

1977
Austin “Ken” Kutscher was re-elected mayor of Flemington, N.J. His term runs through 2002. • Jonathan Greenberg, acting chairman of neurological surgery at Orlando Regional Medical Center in Florida, was featured on the Learning Channel’s “Trauma” series in 2000. Jonathan, who also holds a J.D., appears in the 55th and 56th editions of “Who’s Who in America.”

1979
Associate professor and associate chairman of psychiatry of the University of Connecticut, Harold I. Schwartz is also psychiatrist-in-chief of the Institute of Living and vice president of behavioral health at Hartford Hospital.

1980
Robert A. Herbert, who has an MBA and a J.D. in addition to his M.D., is working as a medical malpractice lawyer, defending physicians.

1985
David E. Bank is president of the Westchester County Medical Society. He is the author of the new book, “Beautiful Skin; Every Woman’s Guide to Looking Her Best at Any Age,” written in association with Estelle Sobel. (See “Doctors in Print.”) He is the son of Ronee Herrmann’54 and Norman Bank’53.

1986
A gynecologic oncologist, Carol L. Brown is attending surgeon at Memorial Sloan-Kettering Cancer Center in New York. She has two daughters and also finds time to play her violin occasionally. • Pediatrician Toba A. Weinstein was named one of the Best Doctors in New York by New York Magazine (June 2001).

1987
Bard C. Cosman has been promoted to associate professor of clinical surgery at UC San Diego. The third-year medical students there selected Bard to receive the Kaiser Permanente Award for Excellence in Teaching for 2001. He also received an award from family medicine residents for his teaching.

1991
One of 30 fellowships in the Leaders for the 21st Century program named “Zero to Three” was awarded to Daniel S. Schechter, medical director of the therapeutic nursery at New York-Presbyterian Hospital. During the course of the two-year fellowship Dan will focus on the relationship of mothers’ mental states, perceptions, and interactive behavior with their very young children in the context of a history of violent maternal trauma. “Zero to Three” is the nation’s leading resource on the first three years of life. Leaders of the 21st Century is funded by grants from the Robert Wood Johnson Foundation and the Harris Foundation.
ALUMNI NEWS & NOTES

THE COLLEGE OF PHYSICIANS & SURGEONS OF COLUMBIA UNIVERSITY
WINTER 2002

1992

Jason Flamm enjoyed a get-together with some of his classmates at Lake Tahoe in February 2001.

1995

Jeffrey Stringer and family are moving to Zambia. Assistant professor of OB/GYN at the University of Alabama, Jeff and his obstetrician wife are doing research on perinatal HIV prevention, contraception, and obstetrical outcomes; they are also on the adjunct teaching faculty at the University of Zambia. Jeff is a co-awardee of a $4 million William & Melinda Gates Foundation grant to the University of Alabama to develop an electronic perinatal record system in Lusaka. The Stringers have two children, Mac and Wilson.

1998

Believing that laughter is the best medicine, Matthew Iseman has taken a leave of absence from his internal medicine residency at the University of Colorado to pursue stand-up comedy in Los Angeles.

DOCTORS IN PRINT

“Beautiful Skin: Every Woman’s Guide to Looking Her Best at Any Age”

By David E. Bank’85 with Estelle Sobel
Adams Media Corporation, 2000
264 pages
Reviewed by Peter Wortsman

Granted, as a middle-aged male, I’m hardly the ideal reviewer for this book and few of my ilk are likely to pick it up. But if, as they say, beauty is in the eyes of the beholder, then being an avid lifelong beholder makes me at least tangentially qualified to comment on this laywoman’s guide to the perplexed.

Author David Bank’85, director of the Center for Dermatology, Cosmetic & Laser Surgery, in Mount Kisco, N.Y., and son of Ronee Herrmann’54 and her husband, Norman Bank’53, has pooled his considerable dermatological knowledge and know-how with the editorial skills of his collaborator, Estelle Sobel, beauty editor of Natural Digest magazine, to come up with a well-organized, accessible handbook chock full of practical advice. Readers can look up the science of skin care in a nutshell, including the effects of sun exposure, hormonal balance, nutrition, makeup, natural aging, and other related factors.

Dr. Bank dispels such myths as the “healthy tan” and counsels on, among other essentials, the proper way to squeeze a zit. He also peppers the text with historical tidbits. Face powder and eye shadow have been archeologically traced as far back as 6000 B.C. The first mirrors were polished slabs of Babylonian bronze. Ivory Soap was introduced in 1879, the same year Edison invented the electric lightbulb. And back in the 18th century, he tells us, women concerned with their complexion would chomp on wafers that contained arsenic.

A chapter titled “Dangerous Beauty” warns against such modern pitfalls as tattooing and breast implants. So go ahead, read “Beautiful Skin” and knock ‘em dead with your looks, but, for heaven’s sake, don’t do yourself in in the process!
ACROSS
1  Goya subject
5  The Beatles’ “--- Woman”
10  Spheroid coif
14  Didn’t just pass
15  Pointed
16  Tor
17  With 41 Across and 64 Across, American source
19  Type of glass
20  Nobelist Curie
21  Slugger Martinez
22  Youth or Man
23  In flower
25  British source
27  Name-dropper
29  --- operation (extended radical mastectomy)
32  Harassed
35  Kind of wit
39  They liked him in the 50s
40  Maupassant’s Bel---
41  See 17 Across
42  Ligature
43  The deep
44  Make jagged
45  Heal, like a bone
46  Highflier?
48  This sleeper won’t snore
50  British source
54  Some prescribed diets
58  Word with currant jelly or chicken fat
60  --- maneuver (forceps rotation of the head)
62  Flexor --- ulnaris
64  See 17 Across
66  Qatar ruler
67  Spanish-American prairie
68  Reel backwards
69  Facile
70  --- capsule (fascial sheath of eyeball)
71  Cenozoic and Mesozoic

DOWN
1  Bipolar manifestation
2  Sharp or biting
3  Ring centerpiece
4  Like a gland
5  Lose vigor
6  To the --- (fully)
7  Modern message
8  Old laxative
9  Attach
10  Sorer
11  It’s treated in winter
12  Julia of films
13  Grimm villain
18  Inert gas
24  Simpleton
26  Muscle strengthener
28  Modern speed unit
30  Cognate
31  Scholarship basis
32  Tabula ---
33  Prophetic sign
34  Physician’s skill
36  Cursor’s leader?
37  England’s --- of court
38  --- Lambert syndrome
41  Leave at the altar
45  Fetter
47  Diner
49  Conjugate --- (lens points)
51  Tailpipe fastener
52  Ransack
53  Violinist Mischa
55  Young chicken
56  Sleep disorder
57  Strata
58  Ontario native
59  Bean town?
61  He follows the news
65  Put on

By Arthur S. Verdesca ’55

Answers in Next Issue

Answers to Previous Puzzle